

ANATOMY

Observations on Human Abortion Ova* An Interim Report

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A little over a year ago, Prof. F. G. McGuinness of the Department of Obstetrics and Gynaecology, University of Manitoba, expressed to the writer his concern over the number of intact abortion sacs in which all, or almost all, traces of an embryo were absent, that he had encountered in the course of obstetrical practice; these empty sacs he aptly termed "blank cartridges." In the course of the conversation which followed, it was agreed that a special study of abortion products would be worth undertaking provided arrangements for obtaining such material could be made.

Source of Material

This matter was discussed at a meeting of the Staff of the Department of Obstetrics and Gynaecology of the Winnipeg General Hospital held in February, 1950, when it was suggested that abortion material might be obtained through the Pathology Department of that hospital. Permission to carry out this undertaking was readily forthcoming and since March 23, 1950, the Pathology Department of the Winnipeg General Hospital has very kindly made available to me all the abortion material which has been directed to it. In addition to this material, many specimens were brought directly to the Department of Anatomy by those who had learned that such a project was being undertaken, and specimens were also received from the Misericordia and Grace Hospitals through the kindness of Drs. F. W. Burgoyne and A. A. Earn, respectively.

At the meeting just referred to, it was also decided that a questionnaire be drawn up and distributed to various sections of the Winnipeg General Hospital with the understanding that one of these forms duly completed would accompany each specimen of abortion material sent for examination; in this way relevant maternal data would be obtained. In practice, however, when such forms were not completed, it was usually possible to get most of the essential data subsequently, either from the path. slip or from the patient's history sheet; this procedure, however, was tedious and time-consuming.

While many of the embryos received were too poorly preserved for sectioning, much useful ma-

terial, especially in the form of older embryos and fetuses, was obtained for the furtherance of present and future projects. It should be mentioned, however, that several well preserved early embryos, mostly from ectopic gestations, were also received from the Pathology Department and these are gradually being serially sectioned; these embryos will be of much help in facilitating present and future embryological research.

Methods

Routine examination of the material, which was fixed in 10% formalin, consisted of the following steps: (1) weighing and measuring the abortion sac when such was present; (2) inspecting the sac contents; (3) weighing, measuring and describing any contained embryo and/or umbilical cord; (4) measuring the volume of the amniotic fluid when possible; and (5) weighing and measuring the placenta when available. In almost all cases histological examination was made of the placental or chorionic tissue and an attempt was made to correlate the macroscopic with the microscopic findings. The tissues were embedded in paraffin and sections cut at 8-10 μ ; subsequently these were stained with either eosin or phloxine and haemalum. When the embryo or fetus was sufficiently large, an autopsy was performed to determine the presence or absence of internal abnormalities. The findings of these examinations were recorded and a report was sent to the source from which the specimen had been obtained.

The bulk of the material received has been preserved for more detailed study at a future date.

(100 specimens obtained from 90 cases)		
90	15 (from operation)	<ul style="list-style-type: none"> 4 Therapeutic abortions (no embryo in 2 cases) 2 Hysterectomies (2 embryos) 9 Tubal gestations
	75 (products passed per vaginam)	<ul style="list-style-type: none"> 13 Specimens of clot etc. 62 ... see Table II

Findings

A. Analysis of Abortion Material

During the period March 23 to August 25, 1950, 100 specimens were obtained from 90 patients and a classification of this material is given in Table I.

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Of these 90 cases, 62 were selected as within the range of the present study; they are further analyzed in Table II.

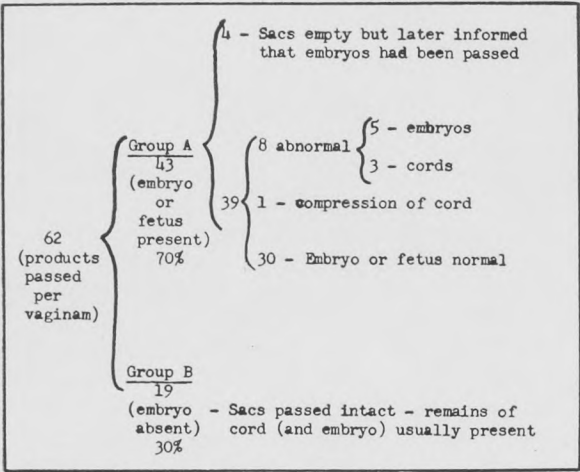


Table II shows a breakdown of the material from 62 cases in which the products of abortion were passed per vaginam. In this group the menstrual age of the products, that is, the age of the products as reckoned from the first day of the last normal menstrual period, ranged from 5-30 weeks (arithmetic mean=13.5 weeks). These 62 cases were then divided into two groups, A and B; in each of the 43 cases forming Group A, an embryo or fetus was present, while in the remaining 19, constituting Group B, the abortion sacs, although intact, contained only the remains of the umbilical cord and in some cases not even that.

Of the material from the 43 cases in Group A, 4 consisted of apparently intact sacs in which only the remains of the umbilical cord were present; evidence, however, was later obtained that the embryos in these cases were passed before the patients reached hospital. Of the remaining 39 cases in this group, 30 passed embryos or fetuses which were apparently normal; 8 passed abnormal specimens (in 5 cases, malformed embryos; in 3 cases, abnormal cords); and in one case, where the fetus itself was normal, death apparently ensued

Table III	
Group A (43)	Group B (19)
Menstrual Age Range = 6 - 30 (38) wks.	Menstrual Age Range = 5 - 20 wks.
Males, 13; Females, 10	
Number of specimens passed in the first 20 weeks	
28 (60%) (7 embryos or cords were abnormal)	19 (40%)
Of 47 specimens passed in the first 20 weeks of pregnancy, 26 (55%) were abnormal.	
Of 33 specimens passed in the first 13 weeks of pregnancy, 22 (66%) were normal.	

from compression of the cord by its twisting round a fetal limb.

Further details regarding Groups A and B are given in Table III. This shows that in Group A, the group of cases in which embryos were present, the menstrual age of the conceptus ranged from 6-30 weeks (arithmetic mean=14.6 weeks); actually, the menstrual age of one fetus was given as 38 weeks but from the maternal history and measurements taken, it was evident that its age was not more than 30 weeks and it was so classified. Of the embryos in which sex was determinable, 13 were males and 10 females.

In Group B, the group in which no embryos were present, the menstrual age of the material ranged from 5-20 weeks (arithmetic mean=10.5 weeks).

By extracting from Group A all the material passed up to and including the 20th week of pregnancy, that is, all the material within the same age range as Group B, it was found that out of the 62 cases considered, 47 passed material of an estimated menstrual age of 20 weeks or less. Of these 47 cases, 19 (40%) aborted intact sacs devoid of embryos while 28 (60%) passed specimens containing embryos, 7 of which, however, were abnormal, either in respect of the embryo itself or in the formation of the umbilical cord. Hence in the series of cases under discussion, 26 (55%) of the specimens passed in the first 20 weeks of pregnancy showed some form of abnormality; on the other hand, if the first 13 weeks of pregnancy are selected, the number of abnormal specimens was 22 or 66%. It is intended to investigate further, if possible, the high percentage of abnormalities in the earlier group of abortions.

B. Analysis of Maternal Data

(1) In the 62 cases considered, the maternal age ranged from 18-43 years (arithmetic mean=29 years).

Table IV			
Number of Cases	Number of Pregnancies	Previous Abortions	Abnormal Specimens
9	1	0	3
15	2	2	5
9	3	3	5
8	4	2	1
5	5	2	3
4	6	3	0
1	7	1	1
1	8	1	0

(2) In 52 cases (Table IV), it was found that abortion occurred most often during the second pregnancy while abnormal specimens were encountered most often during the first to third pregnancies.

(3) In 34 cases the duration of continuous bleeding, that is, continuous as distinct from intermittent bleeding, prior to the expulsion of the uterine contents, ranged from 1-29 days (arithmetic mean=9 days); the duration of bleeding in 9 cases, the largest single group, was one day.

(4) In 17 of the 34 cases referred to in (3), an embryo was present and the average duration of continuous bleeding was 9 days; in the remaining 17 cases of that group, no embryo was found and the average duration of continuous bleeding was 8 days. Thus, aborted ova devoid of embryos were not associated with a period of continuous bleeding longer than that found in the corresponding group in which the ova did contain embryos; the duration of bleeding in these two sub-groups was practically the same.

(5) In 24 cases the results of a Wassermann Reaction were stated; it was negative in all.

(6) In 2 cases the maternal Rh factor was negative and the paternal positive; one of these patients aborted an apparently normal 4-month-old fetus, while the other, during the 8th week of pregnancy, passed an intact sac devoid of an embryo.

(7) In 13 cases information was given regarding illnesses or conditions which occurred during pregnancy; these are listed in Table V.

Table V

Illness, Etc., During Pregnancy:	Number of Cases	Number of Abnormal Specimens
"Chest Cold"	3	3
"Anaemia"	2	1
Pleurisy	1	1
Influenza (interference?)	1	1
Convulsions	1	0
Nausea and Vomiting	1	0
Retroverted Uterus	1	1
"Excessive Exercise"	1	0
Teeth Extraction and Emotional Upset	1	1
Premature Rupture of Membranes	1	0
Total	13	8

The incidence of non-therapeutically induced abortion was impossible to determine; however, in three cases suspicions were aroused.

(8) Of 90 patients, 6 (7%) were unmarried.

(9) The average stay in hospital of 38 patients was 8 days, the minimum 4 days, and the maximum 14 days.

The above results are, of course, based on a relatively small series of cases and those of a much larger series remain to be seen; however, they have been most valuable in indicating aspects which call for further and more detailed investigation.

C. Nature of Abortion Products

The most frequently encountered type of specimen in Group B was that shown in Figure 1 (Case 32—Dr. R. Lyons) in which the intact sac, when opened, contained only a stump of umbilical cord. Not infrequently, as in this case, the yolk sac was found lying close to the attachment of the cord to the sac wall; occasionally a portion of the degenerated embryo adhered to the free end of the cord. Usually in these cases the liquor amnii was gelatinous. Microscopic study of the chorionic tissue frequently revealed avascular villi but in

one case (Case 34—Dr. O. Schmidt), similar to that illustrated, blood vessels were present in the villi.

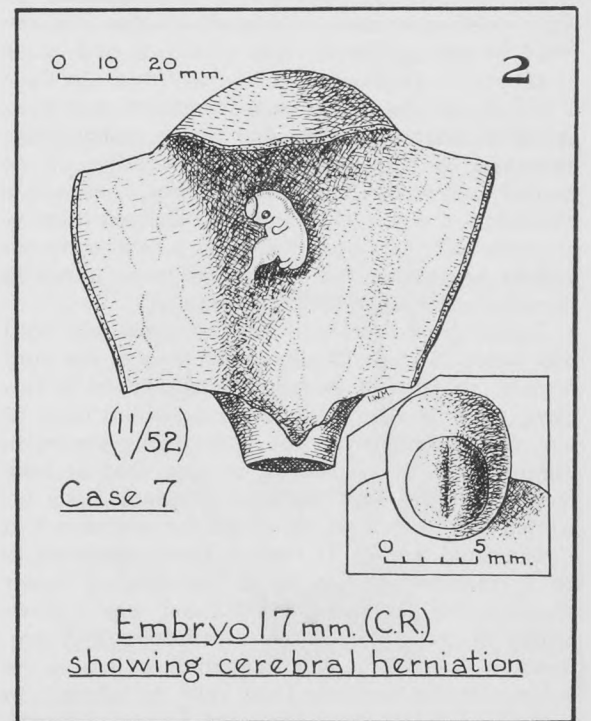
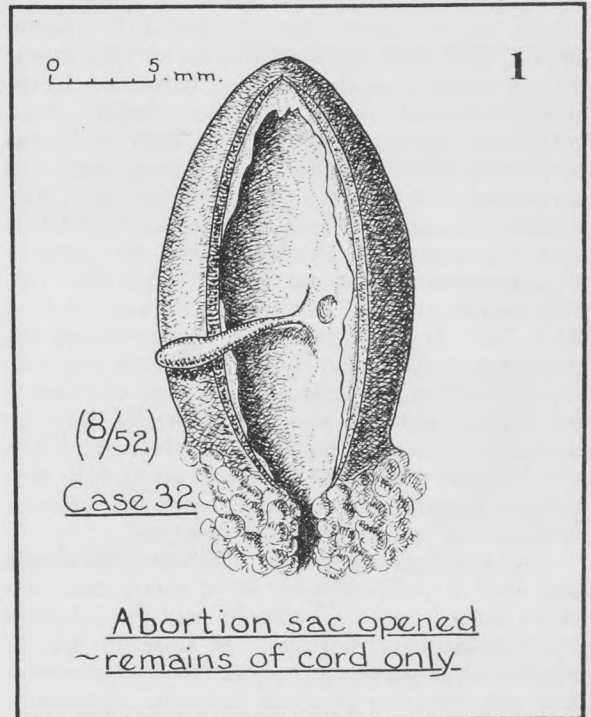


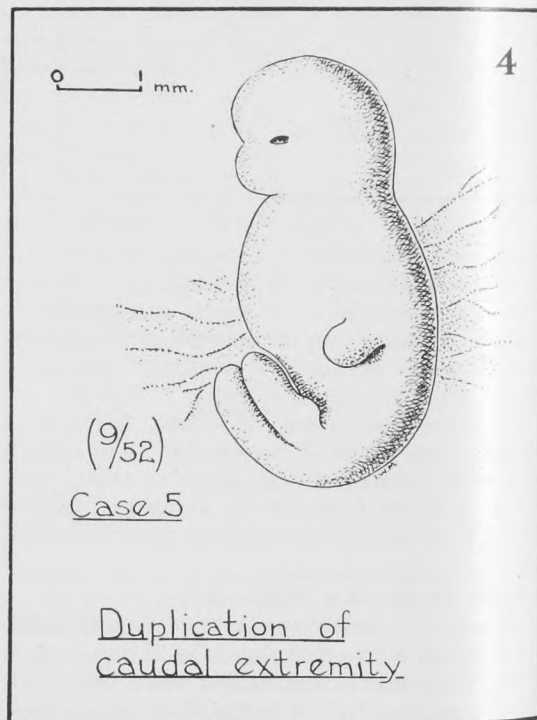
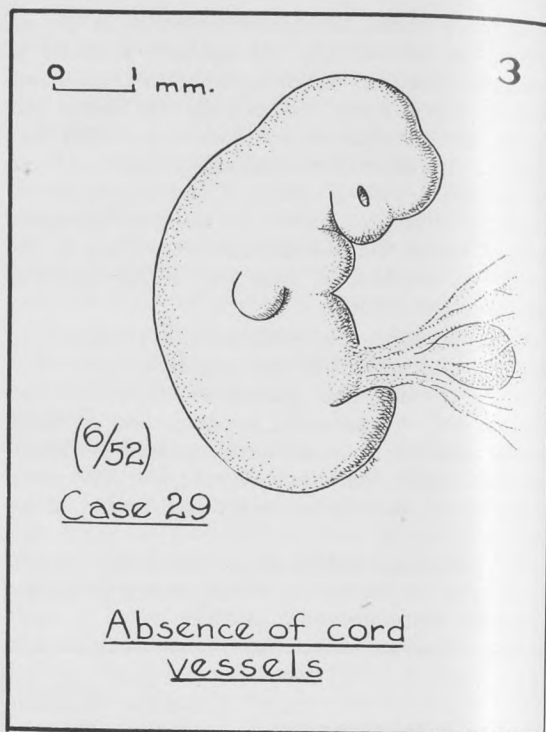
Figure 2 (Case 7, Dr. R. H. McFarlane) illustrates a less common but most interesting type of specimen in which a malformed embryo is associated with a relative or absolute increase in

liquor amnii. In this specimen the liquor amnii was crystal clear and amounted to 45 ml. while the embryo measured 17 mm. (Crown-Rump) and showed herniation of the cerebrum through the vertex region (inset). Case 72 (Dr. A. G. Dandenaunt), presented similar features; in this case a 17 mm. embryo showed cerebral herniation in the parieto-occipital region and the liquor amnii measured approximately 16 ml. Both specimens were from pregnancies of 11-12 weeks; there was no indication from the maternal history as to why abortion occurred. In Case 72 an additional feature was marked constriction of the cord close to its attachment to the sac wall. A specimen (Ab 18), similar to those just described, was received from Prof. Bruce Chown some months before the present investigation was commenced; in this case, the embryo, which measured 18 mm. and had a pronounced cephalocoele, was associated with an undue amount of amniotic fluid. Recently it has been serially sectioned at 10 μ and all sections preserved; cursory examination shows the internal arrangement to be markedly abnormal.

The apparent absence of umbilical cord vessels was seen in three embryos all of which measured about 5-6 mm. (C.R.) in length and ranged from 6-10 weeks menstrual age. In Case 29 (Dr. E. Black) the embryo was in a fair state of preservation and was normal apart from the appearance of the cord (Figure 3), which was replaced by filmy folds of amnion within which the yolk sac could be distinguished. The specimen from Case 81 (Dr. B. D. Best) showed like features. In Case 5 (Dr. R. Mitchell) the cord formation was even less well defined (Figure 4) and the embryo was abnormal in that it showed duplication of its caudal extremity. In all these cases microscopic examination of the chorionic villi showed them to be avascular; in Cases 5 and 29 a few scattered vessels containing fetal red cells were found in the substance of the chorionic plate.

Localized constriction of the umbilical cord was noted in Case 72 but constriction of the cord throughout most of its length was marked in two cases, Case 98 (Dr. L. A. Sigurdson) and Case 89 (Dr. C. C. Henneberg), the latter being shown in Figure 5. It is interesting to note that in both these cases the cord underwent velamentous insertion and in Case 98, in which the specimen had a menstrual age of 11 weeks, there appeared to be a relative increase in the amount of liquor amnii which measured 16 ml. and was yellow-brown in color. Since the membranes had ruptured in Case 89, it was impossible to assess the volume of the amniotic fluid prior to labour. In both cases the embryo appeared normal although in Case 98 it was much smaller than one would have expected from the menstrual history.

Intra-uterine death, apparently due to compression of the cord by its twisting round a fetal



limb, was observed in one specimen (Case 83, Dr. R. Mitchell) which had a menstrual age of 15 weeks and was normal in appearance.

Figure 6 (Case 90—Dr. A. Goodwin) illustrates one of the 4 cases mentioned in Table II in each of which the embryo had been expelled prior to

the patient entering hospital. In the specimen depicted the sac at first sight appeared intact, but careful examination showed that blood clot had filled a breach in the sac wall; in addition, the "free" end of the umbilical cord had a ragged appearance suggestive of tearing and thus differing from the smooth rounded "free" end frequently found in sacs in which the embryo has apparently become resorbed or failed to develop. This type of specimen is mentioned as a reminder that great care must be exercised in assessing whether or not an embryo has been resorbed or expelled from an abortion sac.

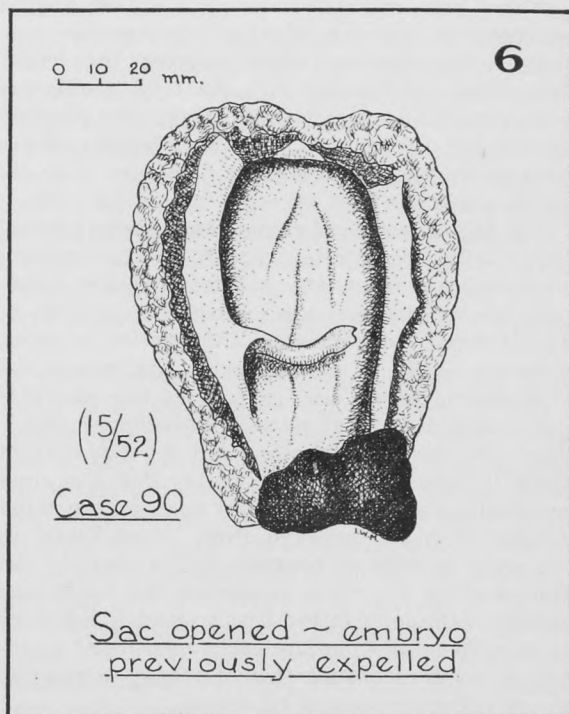
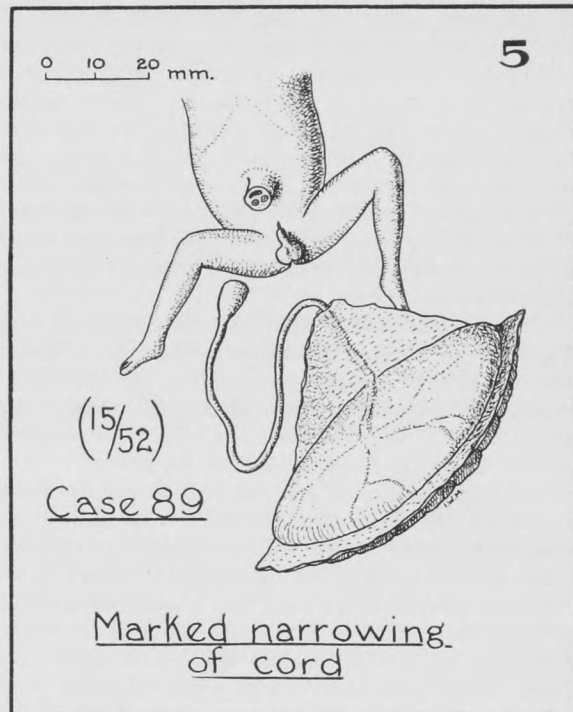
Discussion

Detailed discussion of the above findings will not be undertaken in this preliminary report; some remarks, however, might be made regarding a few of the many problems that have arisen in the course of this study.

(a) **Resorption of umbilical and chorionic vessels:** The frequent absence of intravillous blood vessels, especially in abortion specimens devoid of embryos, naturally raises the question as to whether their absence is the cause or the result of fetal death. At first it might seem that the latter would be the more likely but, if we consider Cases 29, 5 and 81, in which well-formed embryos were present, yet in which the umbilical and most of the chorionic vessels were absent, it will be appreciated that degeneration of these vessels can occur. It would appear that, in the cases mentioned, resorption of the vessels must have occurred about the fourth or fifth week of pregnancy and not before, as the specimens show development commensurate with that period. If vascular degeneration may occur after a gestation period of one month, as in the cases mentioned, it would seem reasonable to presume that it may also happen at an even earlier stage when the vascular system is less firmly established. Care is required, however, in assessing the absence of intravillous vessels, especially in the early specimens, for visible vascularization is not evident in the villi until about the fourth week of pregnancy. Statements regarding the presence or absence of intravillous vessels in specimens of one to two months old should, when possible, be based on careful microscopic examination of the chorionic plate, especially in the region of the attachment of the umbilical cord, as here the vessels, if at all present, will be more easily identified. This criterion was used in assessing the presence or absence of intravillous vessels in Cases 5, 29 and 81. It seems quite possible that degeneration of the umbilical and intravillous vessels may, in certain cases, be a primary factor in the cause of embryonic death and consequent abortion.

(b) **Excessive amount of liquor amnii:** The volume of the amniotic fluid in each of four cases

(Cases 7, 72, Ab 18 and 98) seemed excessive in relation to the size of the contained embryos, which ranged from 14.5 to 18 mm. (C.R.) in length;



in all these cases the embryos were smaller than expected from the menstrual history, and three of them showed head malformations. The question of the relationship, if any, of the excessive amount of liquor amnii to the abnormal embryos arises. It has been suggested that increased volume of amniotic fluid in these cases may be the result of embryonic abnormality, especially of the head region, and that, in such cases, cerebro-spinal fluid is added to the liquor amnii. The opposite, however, might just as well be the case, the diminutive embryo and its anomalies, when present, being the result of interference with the fetal circulation by the pressure of the increased amniotic fluid; this possibility is receiving some attention.

It might be added that information regarding the average volume of amniotic fluid for a given age or size of embryo, especially in the early months of pregnancy, is difficult to obtain; for this reason a record is being made of the volume of the amniotic fluid whenever possible.

(c) **Significance of velamentous insertion of the umbilical cord:** In the specimen obtained from Case 89 (Figure 5) the umbilical cord passes for some distance within the membranes before gaining the placenta and in the intra-membranous part of its course is markedly narrowed. Some examples of this in earlier specimens have also been noted and this might again suggest that where velamentous insertion of the umbilical cord is present, the umbilical vessels may be exposed to undue pressure from the amniotic fluid, especially when excess of it is present. The fact that new-born infants, whose cord has undergone velamentous insertion into the placenta, are frequently underweight might support the hypothesis that interference with the fetal circulation is an important factor in these cases. The possible relationship between the fetal circulation and the pressure of the amniotic fluid would be interesting to determine.

(d) **The causation of anomalies:** Anything interfering with the normal growth of the embryo, whether it be mineral or vitamin deficiency, radiation, virus infection, etc., apparently results in its abnormal development. Information is being collected on the maternal health and nutritional state during pregnancy, as well as the maternal and paternal Rh factors and Wassermann Reactions. While no conclusions can be drawn from Table V, it is perhaps worth noting that abnormal specimens were obtained from each of the three patients who had suffered from "chest colds" in the early months of pregnancy. In view of the known effect of certain viruses on the developing embryo, especially in the first trimester, a history of so-called "cold" in the early months of gestation is worth recording; this, of course, in addition to any other diseases or conditions.

This investigation has been exploratory in nature and comparison of the findings with those of others has been purposely avoided because the series of cases is, at yet, relatively small; as with conclusions, comparisons based on too few cases are apt to be erroneous.

It has been suggested that, since so many aborted embryos are abnormal, it is as well to let Nature take her course and allow such embryos to die in utero and undergo expulsion or resorption; but one of the aims of antenatal research is to discover the factors that initiate embryonic abnormality in the hope that some way to control them eventually may be found.

Estimates of the pathological abortion rate vary, but probably about 10-15% of all pregnancies terminate in spontaneous abortion; the reduction, even to a small extent, of this high ante-natal mortality rate, as well as of the frequency of malformed infants, seems highly desirable.

It is intended to continue this study of abortion material and it is earnestly hoped that the valuable co-operation of those who have made this project possible will continue to be enjoyed; if others wish to join their ranks, they can be assured that their contributions will be most welcome.

Summary

The products of abortion from 90 cases are analyzed and discussed and correlated, as far as possible, with the maternal findings.

Some remarks are made concerning the resorption of the umbilical and chorionic vessels, excessive amounts of liquor amnii, and the possible significance of velamentous insertion of the umbilical cord.

Acknowledgments

Acknowledgments are tendered to Professor F. G. McGuinness, Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Manitoba, for helpful suggestions and guidance; to Dr. H. Coppinger for permission to use material from the Winnipeg General Hospital; to Professor Daniel Nicholson, Dr. D. W. Penner and other members of the Staff of the Department of Pathology, Winnipeg General Hospital, for very kindly arranging for me to receive abortion specimens as soon as their own routine examinations are completed; to the Staff of the Department of Obstetrics and Gynaecology, Winnipeg General Hospital, and to all other practitioners who are co-operating in this study.

The investigation is being carried out in the Department of Anatomy, University of Manitoba, the facilities of which have been made available for this purpose by Professor I. Maclaren Thompson; his helpful criticism and advice, especially regarding the interpretation of statistical data, are invaluable.

TUBERCULOSIS

Vaccination with B.C.G.

Dr. E. L. Ross

Medical Director, Sanatorium Board of Manitoba

Bacillus Calmette Guerin (BCG), is a living culture of bovine tubercle bacillus attenuated to a degree at which it is non-virulent to human beings, i.e., it is non-pathogenic to Man and will not cause disease in Man in prophylactic dosage; it will produce hypersensitivity and therefore a positive tuberculin reaction; at the same time it produces a degree of acquired immunity to the human type of tubercle bacillus. It is to be remembered that this is a partial immunity—not total—but it affords so much protection to the individual who is exposed to open disease that the great majority of medical men who have carefully investigated it, have come out in favor of its use especially in cases where unavoidable exposure to infection by tuberculosis does or may occur. Thus it is advocated in families of former tuberculosis patients, in workers who may be exposed to infection such as nurses in training, medical students and hospital attendants, and in special groups, where the incidence of disease is known to be higher than in the community at large.

BCG originated in a strain of bovine tubercle bacillus that was isolated at the Pasteur Institute in Paris in 1902. This strain had been attenuated by a well-known laboratory method of sub-culturing for 18 years when Calmette, in 1920, decided to use it in preparing a vaccine for immunization of human beings against tuberculosis. At that time the 18-year-old culture showed such stability that Calmette concluded it had become "fixed" at a new low point of virulence and therefore was entirely non-lethal to Man. We have since found out that by following a balanced method of sub-culturing the organism can be held at a fixed point of virulence and therefore can be kept safe for use in Man. Many millions of human inoculations have proved this truth and the great care taken in its preparation by reputable laboratories makes the possibility of accident so remote that it is given universal acceptance.

Calmette carried on experiments with calves for two years and this work resulted in so satisfactory a degree of immunization that in 1922 Weill-Halle of Paris, determined to try it on children. Success crowned his venture. So appreciable was the immunity established without any ill-effects whatever that its acceptance for human use was assured. It soon spread into neighboring countries in Europe and thence throughout the world until today many hundreds of investigators have used it and observed its

results and attest to its safety and efficacy in protecting non-reactors from tuberculosis. Just as it was with Jenner's discovery of the small-pox vaccine, a faint-hearted minority of physicians conjure up all sorts of dangers from its use, but the millions of administrations carried out in perfect safety with not one instance of damage by properly prepared vaccine has stolen their thunder.

Control of tuberculosis was one of the great post-war problems to confront the World Health Organization (WHO). Morbidity and deaths from tuberculosis had increased enormously, facilities for isolation and treatment were practically non-existent and time and money were required to provide them and both were lacking. In this impasse WHO resolved on an immediate mass attack with BCG. A comprehensive program was put into effect and as an indication of the magnitude of the enterprise WHO reports that by the end of 1950 its tuberculosis research office had received detailed statistics on tuberculin testing of over 16,000,000 persons and the resultant vaccination of over 8,000,000. This shows that roughly one-half of those tested by tuberculin were non-reactors and therefore without any acquired immunity against tuberculosis and could be benefitted by BCG.

It is a significant point that the countries that have used BCG most intensively are the ones that are most enthusiastic about it. This is true of the Scandinavian countries which have taken the lead in investigation, experimental studies, laboratory technique and general use and they are its strongest advocates. France has an incontrovertible claim to its discovery through the work of Calmette, Guerin and Weill-Halle backed by the Pasteur Institute. The English-speaking countries have lagged in all phases of BCG work but in 1945, at the urging of WHO both Britain and U.S.A. decided to promote its use. Britain has arranged for a supply of vaccine from Denmark and is urging the general practitioners to use it in their practices.

The American tuberculosis problem has never been so burdensome as that confronting Europe and our present campaign of intensive case-finding, segregation and treatment in institutions has been so successful that America has not felt the necessity of a preventive measure like BCG which appeals with such force to countries where the incidence of tuberculosis is far beyond the facilities that can be devoted to combating it. In this way BCG finds scope in Europe and other continents in a way that is not open to it in America. Also, in America energies have been more directed to refining treatment, mainly surgical, and to dis-

covering a sovereign remedy of which streptomycin is a precursor if not quite the perfect example.

It is beyond the scope or purpose of this article to give a full account of the history of BCG. It is merely desired to draw the attention of the physicians of Manitoba to the fact that vaccination with BCG is a proved method of value in the prevention of tuberculosis, and in the protection of the non-reactor to tuberculin from the disease tuberculosis.

The guiding factor in determining the extent to which BCG vaccination should be included in our tuberculosis control programme is the infection rate. In Manitoba the infection rate as indicated by the tuberculin test is about 5% to 10% among school children. One school in Fort Garry recently had 3.7% reactors. A tuberculin-testing survey of 4,000 Winnipeg school children is now underway and five to ten per cent of the children have a positive reaction. With such a low rate of infection the vaccinating of the ninety to ninety-five per cent with negative tuberculins, and testing and re-testing and re-vaccinating would be a large undertaking which would divert energy and money from the present more important campaign of case-finding and treatment. Therefore, as far as Manitoba is concerned, it is not planned to embark on mass vaccinations of all negative tuberculin reactors among the population.

Recognizing the protective advantage of BCG vaccination, groups of people in Manitoba who have a greater than average opportunity of becoming infected are being vaccinated such as sanatorium and mental hospital employees, student nurses in some general hospitals, and medical students. During the last three years a total of 3,163 Indians in Manitoba have been vaccinated with BCG.

It is recommended that vaccination with BCG should not only include the above groups and nurses in all general hospitals but also—(1) Tuberculosis contacts, especially if there is a possibility of re-exposure to infection in the home; and (2) other persons for whom vaccination is desired by the individual, the family or the physician.

BCG vaccine deteriorates quickly and it is necessary that it be used within a week of its preparation. The Central Tuberculosis Clinic, Winnipeg, obtains a fresh supply weekly by air-mail from the Institute of Microbiology and Hygiene, Montreal, and is pleased to provide, without charge, vaccination service to physicians of Manitoba. All that is necessary is for the doctor to make an appointment for the person to be vaccinated. Note that only those with no reaction to the tuberculin test done intradermally are permissible candidates. Unless there has been a very recent negative test it will be repeated at the Central Tuberculosis Clinic before giving the vaccine.

Abstract*

Cough is a common symptom, yet often it is not evaluated properly nor treated effectively. The physician is confronted with the questions: What is a cough? What are the causes of coughing? What should be done about it?

Cough

Cough may be distressing and purposeless but more often it is a necessary and useful act. Cough can be produced voluntarily but more commonly it is a reflex response frequently reinforced by volition.

The act of coughing can be divided into three phases, namely: inspiratory, compressive, and expiratory. During the inspiratory phase there is a deep, often quick inspiration, followed by closure of the glottis. This results in an increase in intrapulmonary pressure, the compressive phase, immediately preceding expiration. During the expiratory phase the air is forced out with the production of characteristic cough sounds.

The function of cough is the removal of mucus, inflammatory exudate and other material from the air passages, or foreign bodies and other materials which may have been aspirated into the tracheobronchial tree.

Cough is a complex act which depends for its effectiveness on a number of factors. Important among these are bronchial movements which are dependent upon the ability of bronchi to elongate and increase their diameter during inspiration and to shorten and decrease their diameter during expiration. During the expiratory phase there is also forcible compression of the lung through action of the diaphragm and the chest wall.

The narrowing of the bronchus is greatly accentuated in asthmatics and in cases of pulmonary emphysema. It is observed least in persons with pulmonary fibrosis or anthracosilicosis. The compressive action forces secretions upward into the larger bronchi.

Ciliary function is important in the elimination of secretions from all portions of the airway except the terminal bronchioles. During acute infections with excessive or tenacious secretions, activity of cilia may be greatly impaired.

The establishment of a condition of tolerance may lessen or obliterate temporarily the reflex cough. This is commonly observed in patients with bronchiectasis who are able to go without coughing for hours. When cough is initiated volitionally they may evacuate several ounces of pus before again relapsing into a state of tolerance.

*Reprinted from "A Review for Physicians," by the National Tuberculosis Association, January, 1951.

What are the causes of cough? In the common respiratory diseases such as pulmonary tuberculosis, pulmonary abscess or other pulmonary diseases, cough is a frequent symptom, and the cause can be demonstrated by roentgen study and physical examination. Excessive smoking and chronic alcoholism produce local congestive changes in the pharynx, larynx and tracheobronchial tree which give rise to cough. Exposure to dust and fumes exerts an unfavorable influence on the respiratory tract. An extrarespiratory cause of cough may be irritation of the external auditory canal, or nasal and pharyngeal obstruction. Cough may be associated with the taking of food or fluid, in paralysis of the larynx, or in laryngeal disease. Severe productive cough occurring when one changes position suggests either pulmonary abscess, bronchiectasis or empyema with bronchopleural fistula.

In investigating this symptom a careful history of the onset and character of the cough, the presence and appearance of sputum, the time of occurrence and associated symptoms are important.

A study of the chest and the cardiovascular system should be made. The more common causes of cough should be excluded first. One should then proceed with an examination of the ears, nose, mouth, throat, laryngopharynx, larynx and neck, which can be done by any physician who has a reasonable knowledge of the upper air and food passages. The inveterate smoker should be encouraged to discontinue smoking and the worker in dust or fumes should minimize exposure in the absence of any definite localizing evidence of disease. Unexplained radiographic shadows or

localized physical signs indicate bronchoscopy if the patient is an adult male. Cough with or without slight sputum is a common early symptom of bronchogenic carcinoma.

Bronchography is indicated if there is any suspicion of increased bronchopulmonary markings suggesting bronchiectasis. With a history of allergy, appropriate tests should be made.

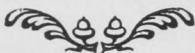
The patient may be contented with the effects of a cough sedative or intralaryngeal instillations. The physician, however, should be interested in determining the cause of the cough.

Cough is necessary to rid the tracheobronchial tree of excessive secretions as in pulmonary abscess or bronchiectasis and in these narcotics should be used sparingly. In carcinoma, cough commonly is purposeless and is an early manifestation of bronchial irritation. In the postoperative case the cough "reflex" should not be suppressed. There must be adequate drainage of the tracheobronchial tree to prevent bronchial obstruction with secretions and postoperative pulmonary atelectasis.

If cough is purposeless, cough sedatives may be indicated. When cough is inadequate so-called stimulating expectorants are recommended. Inhalations of carbon dioxide and oxygen increase the quality of sputum, and have been highly recommended.

The physician must regard cough as a symptom and although relief should be afforded the patient while the cause of cough is investigated, merely suppressing cough with a narcotic often will prove harmful.

Cough, Louis H. Clerf, M.D., The Mississippi Doctor, July, 1949.



NEUROLOGY

The Diagnostic Use of Curare in Myasthenia Gravis*

R. E. Beamish, M.D., and Jean McFarlane

Myasthenia gravis is a comparatively rare affection of muscles first described in 1865 by Wills but not until 1895 was it so named by Jolly. Principal symptoms and signs of the disease are due to abnormally rapid development of fatigue and weakness in skeletal muscles when these are in action. The muscles affected vary from case to case and in a given patient from time to time. Muscles most commonly involved are those of the face, the masseters and the muscles for swallowing and speaking. In the ordinary case, diagnosis can often be made readily at a glance—the face is almost always characteristic, with ptosis of one or both upper lids and a generally sad expression. This appearance, together with a history of ptosis, diplopia, nasal speech, facial weakness, weakness of articulation, mastication or deglutition, all of which are minimal in the morning but increase during the day, makes the diagnosis practically certain. Although the above functions are those which are most often affected, practically all the striated musculature of the body may be affected and thus produce generalized myasthenia. Gravest danger in the disease arises from involvement of the respiratory muscles which may lead to severe, sometimes fatal, respiratory difficulty.

The etiology of the disease is unknown but it has been found that the essential abnormality is a failure of normal conduction of the motor nerve impulse at the neuromuscular junction. The arrival of nerve impulses at this junction normally leads to the liberation there of acetylcholine which renders the muscle fibres sensitive to the impulse. If this substance be not liberated or if it be prematurely destroyed by the enzyme cholinesterase, contraction does not follow. One or other of these abnormalities appears to be present in myasthenia gravis and can be temporarily overcome by the injection of physostigmine (or of the synthetic product, prostigmine), so that normal contractions follow until the effect of the drug wears off. A thymic tumor or hyperplasia of the thymus has been found in about fifty per cent of cases. However, the role of the thymus in the pathogenesis of the disease is not clear. Surgical removal of a thymic enlargement has been followed by spectacular improvement in some instances, so that thymectomy has been widely advocated. Eaton and Claggett¹ have recently compared the course of 72 surgically treated patients with 142 control cases

and conclude that thymectomy does not beneficially influence the course of the disease. When a demonstrable tumor is present, its removal is recommended because of the potentially malignant character of thymomas and not because of anticipated improvement in the myasthenia gravis.

Diagnosis in the usual case is easy on the above signs and symptoms. However, in atypical cases or in cases during a remission, diagnosis may be exceedingly difficult. It is then necessary to use auxiliary methods of diagnosis. A well known chemical test (Viets and Schwab²) consists of the intramuscular injection of prostigmine methyl sulphate (1.5 mg.) and atropine sulphate (1/100 grains) (0.6 mg.). Objective and subjective improvement in the patient's condition following this are graded from 1 to 4 at 10-minute intervals over a 1-hour period. A total score of 8 or less is negative; 8 to 18 is doubtful; 18 to 48 is presumptive evidence of myasthenia gravis. Although the response to prostigmine is sometimes quite dramatic, it is unfortunately true that only about two-thirds of patients with the disease show this positive chemical test.

It has long been known that there is a similarity in the symptoms produced by curare and those of myasthenia gravis: Oppenheim³ in 1901 observed that "veratrine evoked in muscles a condition analogous to myasthenia." Briscoe⁴ in 1936 showed that myocurarization produced a myogram similar to that of myasthenia gravis, and later Harvey and his co-workers⁵ confirmed this similarity and stated: "The characteristic abnormalities of the electrical responses of the myasthenic and curarized muscle are identical in all respects." This similarity was also noted by Bennett⁶ who in 1941 studied curare as a preventative of traumatic complications in convulsive shock therapy. From these observations (plus other experimental evidence that curare changes acetylcholine action and produces artificial myasthenia), it was concluded that myasthenic patients would likely show an increased degree of sensitivity to curare. This expectation was confirmed in 1943 by Bennett and Cash⁷. In five patients with myasthenia gravis, each showing a different degree of the disease, they found that 1/10 to 1/20 of the average adult dose of standardized curare necessary to produce generalized paresis in a normal subject, caused profound exaggeration of symptoms in myasthenic patients. They concluded that curare could be safely used as a diagnostic test for myasthenia. In cases where prostigmine response was doubtful or indefinite, they considered that curare produced a more specific and diagnostic reaction. The same authors⁸ reported further experience with the

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test in 1943 at which time ten cases were described. Successful use of the test in a problematic patient will now be presented.

Report of a Case

Mr. W. T., a Chinese, age 57, was admitted to the Winnipeg General Hospital on the evening of October 7, 1950, complaining of a troublesome productive cough present for four days. Examination by the admitting interne revealed a temperature of 99°F., bilateral basal crepitations, rhonchi and some increase in tactile fremitus in the right chest posteriorly. A diagnosis of bronchopneumonia was made and he was given 400,000 units of penicillin intramuscularly then and daily thereafter. Roentgenogram of the chest taken next morning disclosed extensive infiltrations in both lower lobes and in the right middle lobe.

also evidence of emphysema and perhaps some pulmonary fibrosis. Because of a history (vide infra) of a good response to prostigmine given for constipation on a previous admission, he was now given prostigmine bromide, 15 mg. four times a day. The next day (October 12) there was no improvement and he was started on digitalis as well. At this time there was still no definite evidence of congestive heart failure and an electrocardiogram was normal. Digitalis was given on empiric grounds because of orthopnoea and moderate venous distension, and perhaps for want of anything better to relieve his distress. By the time full digitalization was achieved (October 14), he was strikingly improved; he now could lie flat in bed, respiratory distress disappeared and he took an active interest in the activities of the ward. The

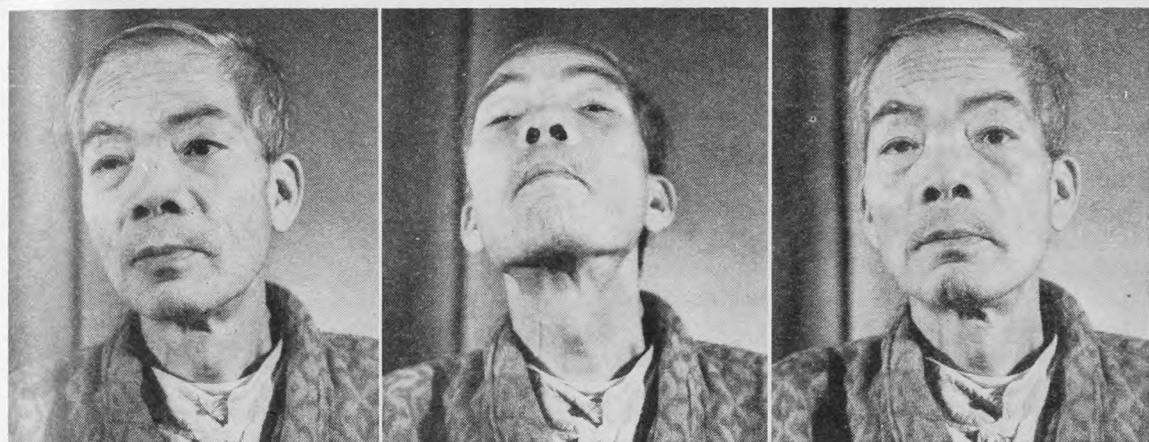


Fig. 1—Left—before curare. Centre—2 mins. after 5 units of d-Tubocurarine Chloride Solution. Note bilateral ptosis. Right—after termination of test with prostigmine.

During the day of October 8 he became progressively worse: he insisted on sitting beside his bed with his head supported on two pillows, his cough continued to harass him and temperature rose to 100.2°F. He now had signs of consolidation at the right base and it was noted that respiratory movements were of small amplitude and that he was using accessory muscles of respiration. He could not be persuaded to lie down in bed because it made his cough worse; this fact, together with a moderate distension of cervical veins, raised the question of congestive heart failure. There was, however, no other evidence of cardiac decompensation and he was now given streptomycin, 0.5 gm. twice daily, and rectal suppositories of aminophylline. Next morning (October 9) temperature had returned to normal and so remained until discharge on October 20, 1950.

In spite of the improvement in cough and fever, he remained distressed, dyspnoeic and ill-looking. He still refused to lie down in bed. It became increasingly clear that here was something more than a bronchopneumonia even though there was

problem now was to ascertain whether prostigmine or digitalis had effected his recovery. It was decided to try the curare test on him; prostigmine was discontinued on October 16 and the test was performed the following day.

Effect of the test is shown in the accompanying photographs (Fig. 1). The picture on the left was taken prior to the injection; although there is some puffiness about the right eye, it is not particularly suggestive of myasthenia gravis. The centre picture, taken two minutes after the intravenous injection of five units of d-Tubocurarine Chloride Solution (Squibb), shows a typical myasthenic reaction. The head is tilted backwards in an effort to see under bilaterally ptosed eyelids. On the right he is seen a few minutes after the termination of the test by injection of 1.5 mg. of prostigmine methyl sulphate with 1/100 grain of atropine sulphate. It was now apparent that he was suffering from myasthenia gravis with particular involvement of the respiratory musculature.

It is of interest to find that he was previously admitted to this hospital in February, 1950, because

of constipation, nausea and pain in left lower quadrant of about a month's duration. Clinically and radiographically there was a suspicion of a tumor of the sigmoid colon. A laparotomy was performed under general anaesthetic, induced with pentothal and maintained with cyclopropane and ether. Forty units of curare were given by the anaesthetist to promote muscular relaxation. It was noted that respiration was unusually shallow during the operation, and at the end of the operation artificial respiration had to be given in the operating theatre, and again later when he had been returned to the ward. This respiratory failure was no doubt due to the routine pre-operative administration of curare to a patient with unrecognized myasthenia gravis. Operation revealed only a hypertrophied, edematous sigmoid; no surgical procedure was done. He subsequently recovered uneventfully from this laparotomy and was discharged.

A month later, in March, 1950, he was readmitted because of very stubborn constipation. Enemas and a variety of laxatives were tried for ten days without success. He was then given oral prostigmine, 15 mg. four times a day, because of its well known usefulness in atony of the colon. His constipation was relieved and he was discharged.

Thus, this patient, unsuspected of myasthenia gravis, had been subjected to both the effects of curare and of prostigmine, given for other reasons, and at widely separated intervals. The significance of his response in each instance was accordingly unrecognized.

Comment

This case illustrates the potential danger attending the use of curare in patients with unrecognized myasthenia gravis. Curare is now widely used by anaesthetists to promote muscular relaxation during surgical operations, and by psychiatrists to soften convulsions of shock therapy.

Although its undoubted value assures its continued use, it is becoming increasingly clear that untoward reactions of all degrees may follow its administration. There are probably several varieties of severe reaction, one of which is provided by "subclinical" or unrecognized myasthenia gravis. Foregger⁹ has recently emphasized the dangers of curarization and reports three fatalities; a partial review of the literature disclosed 19 additional deaths. It is advisable to query the possibility of myasthenia gravis in every patient before curare is given. Conversely, any patient who exhibits respiratory difficulty after curarization, should be subsequently investigated for myasthenia gravis.

The favorable effect of prostigmine on this patient's constipation is also of interest. Atony of the colon is not a feature of myasthenia gravis but weakness of the voluntary muscles used in defaecation may have been a factor. Perhaps myasthenia gravis should also be suspected whenever prostigmine, given for any reason, has been particularly effective.

Summary

1. A case is reported showing the value of the curare test in the diagnosis of myasthenia gravis.

2. Attention is drawn to the potential danger of administering curare to patients with unrecognized myasthenia gravis.

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CARDIOLOGY

Advances in Coronary Disease

B. H. Lyons, M.D., F.R.C.P.(C)

Part 2

(Continued from March issue)

Electrocardiographic Diagnosis

The science of electrocardiography has been practically revolutionized in the past few years. New technical methods have been introduced and their usefulness defined—in particular the use of multiple unipolar chest leads (V leads), and unipolar limb leads. Wilson²⁰, Katz²¹, Goldberger²², Myers²³ and others have pioneered in these studies, Myers' studies were admirable clinico-pathological correlations. Hearts of patients coming to autopsy were examined by preliminary injection of the coronary vessels with radiopaque solutions. The hearts were then cut into transverse slices and radiographs taken of each slice. Avascular areas into which the injected solution had not penetrated were thus defined. With these as a guide numerous microscopic sections were studied and lesions were exactly outlined. It was thus possible to create models of the diseased hearts with the pathological areas delimited. The results were compared with predictions made from a study of multiple lead electrocardiograms before death. It was found that the lesions had not only been diagnosed but in most cases predicted quite accurately as to location and size. The diagnosis in anterior infarction could be made with almost 100% accuracy. In posterior infarction some cases might be missed. However in acute conditions, with the use of multiple leads and serial tracings, the diagnosis of infarction can be made or excluded almost without exception. If less than the full set of leads is taken however, there is a definite chance of error. Consequently if there is a negative electrocardiographic report when coronary heart disease is suspected, a full set of 12 leads should be requested, and if required follow up tracings taken. Many clinicians believe it worthwhile to take the full set routinely and thus minimize the possibility of incorrect diagnosis.

The Step Test

One of the most unsatisfactory aspects of the electrocardiograph has been its failure to find objective evidence of coronary disease in over half of patients with angina pectoris. Too often a negative report was accepted by the referring doctor as grounds for reassuring a patient that he did not have angina pectoris. Subsequent events, such as infarction or sudden death, tended to place the electrocardiograph in disrepute as a diagnostic instrument in the detection of angina. The use of multiple leads has been of some assist-

ance but probably one-third of cases of angina will still be reported as negative even with the new techniques. Therefore clinical suspicion of angina should never be dismissed because of a negative cardiogram. Nevertheless, particularly because the clinical diagnosis is often in doubt, an objective method that is reasonably accurate was greatly needed.

It has long been known that during an attack of angina pectoris, electrocardiographic changes indicative of subendocardial ischemia were present. As the opportunity rarely presented itself to obtain such a cardiogram during spontaneous attacks, attempts were made to secure tracings under artificial conditions which produce myocardial anoxia. Levy²⁴ and others devised the "Anoxemia Test." This depended on the patient breathing a low percentage of oxygen while an electrocardiographic tracing was recorded. A positive test showed ST depressions and T wave inversions identical with those seen during a spontaneous attack of angina. Positive results were obtained in many patients who had normal resting cardiograms. This method did not gain general usage because of the special equipment required, and because of occasional alarming reactions—even deaths being reported.

A great advance was made when it was found that a positive test could be obtained following graded amounts of exercise, not necessitating the production of an actual attack. Providing cases are properly selected and judgment used in the test, it is safe. No fatalities have been reported in the English literature. The exercise required does not exceed that which the individual may often carry out in his ordinary activities. The commonly used exercise standards are those described by Master²⁵. A control tracing is taken immediately prior to the test. The patient then walks up and down a set of two steps—hence the test is called the "Two Step Test." The number of trips and the time taken are determined in each individual based on an age-weight table. If the result is negative the test is repeated with twice the exercise, called the "Double Two Step Test." Tracings including at least 3 chest leads must be taken at once and at intervals usually of 2, 5 and 10 minutes to detect changes which may occur.

It is now universally agreed that the majority of patients who have normal electrocardiograms at rest can be successfully diagnosed as to the presence or absence of angina by means of the Step Test. The percentage occurrence of false positives and negatives is still not settled. Master states that a negative double test rules out

coronary disease, but that false positives may occur in neurotic people and especially in neuro-circulatory asthenia. (He suggests that false positives may be recognized by a test involving administration of ergocornine²⁶). Grossman, Winter and Katz²⁷ take the opposite stand—that some cases of angina may be missed but that a positive test is diagnostic. These statements appear hard to reconcile, but the explanation may lie in the fact that the authors use different sets of criteria for diagnosis. (Katz requires greater cardiographic changes for a positive test than does Master). The writer has found it useful to interpret each test by both standards. Where the test was positive by one set of criteria (Master), but negative by the other (Katz), it has been classified as borderline.

A recent contribution by Wood²⁸ may prove to be very helpful. Unlike most other authorities he does not use a standard test but exercises each patient up to their individual tolerance. According to Master such a test would produce many false positives. Wood claims, however, that the ST depressions produced in normal individuals can be differentiated by their contour from those due to disease. He placed particular emphasis on the chest leads and on repeated rapid checks of leads showing changes. One hundred known patients with angina were tested, with a positive result in 90%. One hundred control normal cases gave 97 negative, one positive, and two doubtful

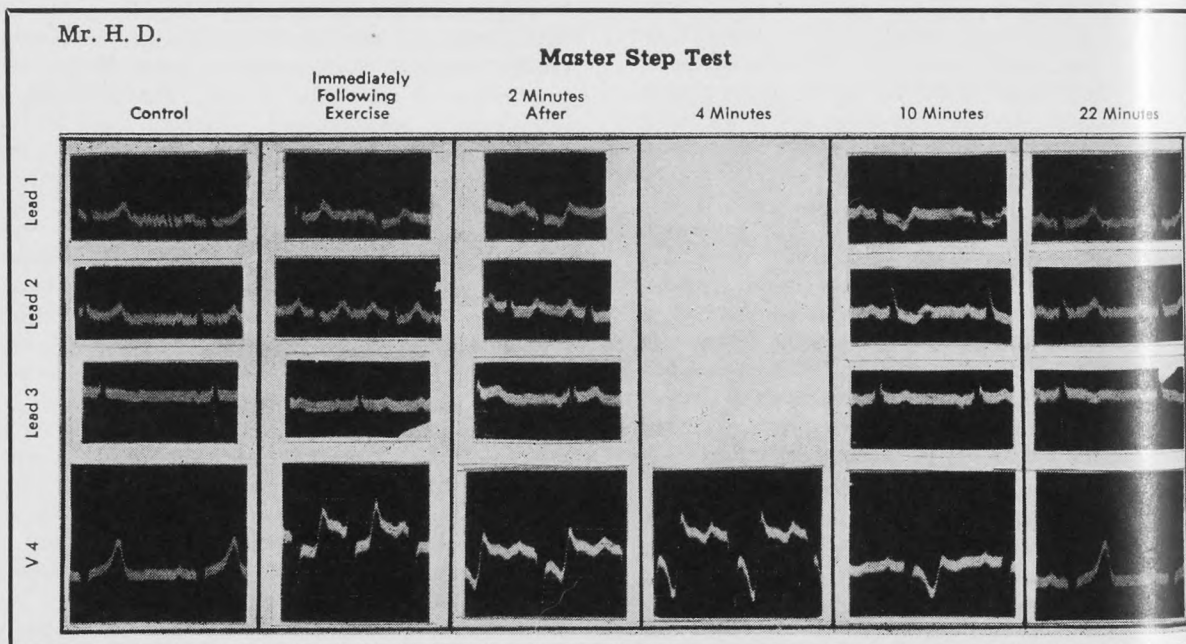
trocardiographic diagnosis in over 95% of patients complaining of chest pain.

The introduction of the exercise test must be considered as one of the most important advances made in the diagnosis of coronary disease.

The electrocardiographic sequence reproduced shows a markedly positive reaction to the Master Step Test. The first column shows selected leads from a normal tracing at rest. The subsequent tracings were taken following exercise, and show striking ST depressions and T wave inversions, especially in the chest leads.

The above record was selected for illustration because, (a) the changes shown are unusually striking, and (b) they established the diagnosis in a case which had been obscure for 20 years.

The patient was a man who at the age of 50, in the year 1931, began to have attacks of pain located in the back above the spine of the left scapula. When severe, the pain would radiate anteriorly through to the second anterior intercostal space. The attacks were provoked by effort, and relieved by rest and nitroglycerin, but the resting electrocardiogram had always been normal. Furthermore, from the very beginning, he had attacks of pain at rest which would often waken him from his sleep. He also developed a continuous sensation of discomfort in this area, which could be modified by heat or movements of his neck. There was marked hypersthesia over



tracings. It must be recalled that the anginal cases tested were selected because they had normal tracings at rest. Since over half of anginal patients have abnormal resting electrocardiographs, Wood was thus able to get a correct elec-

trocardiographic diagnosis in over 95% of patients complaining of chest pain. the area of pain in the back and in the second intercostal space anteriorly. X-ray of the cervical spine showed marked degenerative changes. Opinion was divided between various physicians whom he consulted as to whether he had anginal

or radicular pain, and he received a good deal of local treatment without benefit. The diagnosis was finally established by the exercise test illustrated. A tracing was also obtained at a later date during a spontaneous attack of pain developing while the patient was resting on the examining table in the office. The findings were identical to the test obtained on effort.

It was felt that the attacks of pain, both on effort and at rest represented true angina pectoris, whilst the continuous discomfort and local tenderness were a manifestation of a reflex dystrophy secondary to the angina. The mechanism of this is discussed elsewhere (in the March issue), under the "shoulder hand syndrome."

Nine months after the test illustrated was taken, the patient suffered an extensive myocardial infarction associated with prolonged pain, which was of the same character and in the same location as in the paroxysmal attacks which he had for 20 years.

Therapeutic Measures Rest

Ever since the clinical syndrome of myocardial infarction was defined, it has been the practice to keep victims of this catastrophe at complete rest for long periods, followed by inactivity, amounting to semi-invalidism, for months. No proof has been advanced and no controlled studies have ever been carried out to indicate that such prolonged inactivity was necessary. Rats or dogs, after experimental infarction, have done as well when allowed free activity as when restrained²⁹. It is difficult, however, to reproduce the same conditions in animals as in man. Agitated patients in mental hospitals who had infarction suffered a high incidence of myocardial rupture during the first week or two of the disease³⁰. The activity here was, however, beyond anything which would even be thought of in ordinary patients.

Blumgart⁹ demonstrated experimentally that collateral circulation developed rapidly following infarction (in the first two or three weeks), and stated that patients should have long periods at rest to promote development of these anastomoses. Others³¹ have argued that mild anoxia is the best stimulus to new vessel formation and that earlier activity would promote this process.

Initially, shock, pain, or threatened myocardial failure demand rest (although the sitting or Fowler position is more advantageous for left ventricular failure than the supine one). The dangers of serious arrhythmias and ruptured myocardium are practically limited to the first two weeks. After this period thromboembolic phenomena, pneumonia or myocardial failure may still develop—but it is probable that these latter complications are more likely to occur if complete bed rest is enforced.

During the period of bed rest the average patient becomes constipated. Efforts at using the unfamiliar bedpan require the expenditure of a considerable amount of energy, which is in strong contrast to the complete rest otherwise insisted upon. An interesting experimental study³² has shown that 50% more energy is used on the bedpan than if the patients are allowed to use a bedside commode.

Increasing attention has been paid in recent years to the psychological effects of illness. Patients stricken with a dread heart disease develop anxiety about their own future and that of their families, and the long period of invalidism and delay in return to gainful activity often result in development of depression and cardiac neuroses which may be more disabling than the organic lesion. If then it can be shown that such prolonged invalidism does not make a great deal of difference to the mortality, it would make for a happier and more useful individual if this period of inactivity could be reduced.

In the absence of scientific evidence one way or another, Irvin and Burgess³¹ suggest that for the average case a two-week period of recumbency is adequate. This takes care of shock, arrhythmias, and cardiac ruptures. During this time a bedside commode should be used when possible. After the two-week period the patient is allowed to sit up out of bed and the effect of this effort on the pulse noted. If a tachycardia is not induced, increased periods of getting up are ordered, until at the end of three and a half or four weeks the patient is walking around the wards and can go home. This four-week period takes care of the time during which anticoagulants should be administered. After a further three or four weeks at home the patient may be ready for partial light gainful activity.

In complicated or severe cases individual judgment has to be used. There will always be some who are forced into permanent invalidism.

The sedimentation rate and the electrocardiograph are of help in guiding the patient's return to activity. A normal sedimentation, or at least one at a stable level, is essential before the patient becomes very active, although it is not necessary to require this before getting up. An electrocardiograph which is reverting towards normal, or shows a stable pattern is also to be desired.

Diet

Avoidance of overweight is axiomatic in the treatment of coronary disease, and the postinfarction period in hospital should be utilized in getting overweight patients started on a reducing regimen.

The much debated question as to reduced cholesterol intake has been discussed in the first part of this paper (March). No final statements can be made as yet, and it may be years before the problem is finally settled. Nevertheless, im-

pressive evidence has been presented that atherosclerosis is probably a metabolic disorder associated with increase in one of the cholesterol-protein fractions in the blood, and that this molecular complex can be reduced by dietary means. Whether such a diet will alter an established clinical state is unknown. It would appear, however, justifiable to limit cholesterol in the diet of patients who have atherosclerosis, on the possibility that it may be of value. In patients predisposed to coronary disease—by a bad family history or with diseases such as diabetes—the same considerations would apply. Since leanness is desirable in these conditions, such a diet which is low in animal fat will promote this objective. The low cholesterol diet is not altogether a low fat diet, because fats of vegetable origin, such as margarine are permitted, while certain non-fatty foods such as animal organs are restricted because of high cholesterol content.

Patients who have been advised to follow this diet have not found it a hardship and have adjusted themselves to it without difficulty.

It has been claimed that **lipotropic agents** such as choline influence fat metabolism favourably and improve the prognosis in coronary disease. Morrison³³ has reported favourably on treatment in which he administered 6 grams of choline per day. Stamler et al³⁴ were unable to favourably influence or prevent atherosclerosis in chickens by using lipotropic agents. It seems doubtful if these compounds will prove to have therapeutic value.

Use of Plasma or Blood in Shock

The development of clinical evidence of shock is of ominous import following infarction, the mortality being over 50%. While the mechanism is not clearly understood it is presumably due primarily to the sudden fall in cardiac output. It has often been considered that shock is a protective mechanism, lowering the blood pressure and thus reducing the work of the heart. However, when the evil effects of shock are considered such a view does not seem logical. Apart from the deleterious effects on brain and kidney, the reduced pressure produces a reduction in coronary flow, which must tend to increase the cardiac anoxia primarily responsible for the shock, thus creating a vicious circle. That this actually is the

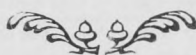
sequence has been shown experimentally by Corday and associates³⁵. These workers also demonstrated that in experimental infarction there was as a rule a non-contractile area around the infarct, which ballooned outward during systole. When shock was superadded this condition became much more severe. Relief of the shock by transfusions resulted in marked improvement. These authors and also Sampson and Singer³⁶ therefore argued that cautious transfusions might be life saving in infarction accompanied by shock. The only contraindication they felt was increased peripheral venous pressure. They reported beneficial effects even if some pulmonary congestion were present. Levine³⁷, however, felt transfusion should not be given unless the patient could lie flat without dyspnea.

Sampson and Singer³⁶ recommended the administration of blood plasma at a rate of 2.5-5.0 cc. per minute, with frequent observation of blood pressure readings. The amount given at any one time was about 250 cc. but this was repeated as indicated.

(To be concluded in May issue)

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METABOLISM

Diet in Diabetes

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F.R.C.P.(C)

M-11 Medical Group

There is a school of thought, with Tolstoi¹³ as one of its main advocates, that believes that hyperglycaemia is not harmful to diabetic patients. Nevertheless there is much evidence to justify an attitude of "Caution—Go slow."¹² Because practitioners and patients alike are liable to find many conservative diet schemes too difficult, it is timely to present a simple diet for diabetic patients that recognizes the importance of orthodox blood sugar control.

R. D. Lawrence⁸ has for many years used a "Simple unweighed diet," and his experience has been "From the thousands of cases I have treated in this way, I am certain it works well and the total weighing of food is unnecessary. . . . I do insist, however, as a minimum essential for successful treatment, that a fixed regular amount of carbohydrate, whether weighed or measured, shall be taken to balance the action of insulin." The author has found an equal satisfaction in treating some hundreds of diabetic patients on similar principles. The theory and practice of the simple diet as currently used by the writer are set out below.

Calories

Newburgh and Conn^{9, 10} have shown that weight reduction in the overweight diabetic can result in an increase in glucose tolerance to the extent where the time curve becomes normal. It follows that overweight diabetics should be advised weight reduction, and it is good practise to try and maintain diabetic patients a few pounds below weight for age and height. It will be seen that the simple procedure of frequent weighing can be substituted for complex calorie calculations. This disposes of a time honoured procedure that is increasingly recognized to be cumbersome and unnecessary.

Carbohydrate

Allen's^{1, 2} classical work remains of importance. It can be summarised as follows. The removal of a sufficient fraction of a dog's pancreas causes a fatal diabetes. After the removal of a smaller fraction the animal can be maintained healthy and aglycosuric on a meat diet but shows glycosuria on bread, which, if persisted with sufficiently, can lead to a progressive and fatal diabetes. After the removal of an even smaller fraction of the pancreas the animal can be maintained healthy on bread or meat, but sugar feeding, if persisted with, can lead

to a fatal diabetes. It may be concluded then that (in dogs at any rate) carbohydrate tolerance, if borderline, deteriorates progressively if the load of carbohydrate is too heavy.

It is common knowledge that carbohydrate starvation, even in normal persons, causes a loss of tolerance to the extent of rendering the glucose time curve temporarily diabetic. Himsworth⁶ has demonstrated a loss of insulin sensitivity on such diets. Over all then, it is desirable to strike a balance between too little and too much. For these and other reasons, current practice allows the average diabetic patient some 150 to 200 grams of carbohydrate daily, and this is also the practice of the writer. (Rabinovitch has advocated the use of diets with much higher carbohydrate values. To prevent an overabundance of calories these diets necessitate an unbalanced reduction in their fat content. Accordingly they have not gained general acceptance. The recent claim by Rabinovitch¹¹ that sugar contains something, not glucose and not lactose, that improves the tolerance of diabetic patients is interesting. Developments are awaited.)

As long ago as 1915 Woodyatt¹⁴ et al made the important statement: "Tolerance must be regarded as a velocity and not as a weight." In other words it is not only the load of carbohydrate that matters, but as much is it the distribution of this load in time that is important. Gray⁴ reported better results in diabetics by dividing the food given into six meals instead of three. These principles are currently accepted. Details should be arranged to meet the convenience of the individual and to watch the hypoglycaemic effect of any insulin that has been prescribed.

The kind of carbohydrate prescribed is also important. Joslin⁹ has presented this very neatly. "Sugar enters the blood as fast as a child runs. Starch enters the blood as fast as a child walks. The starch in vegetables enters the blood as slowly as a child creeps. . . . This is very important, because it explains why diabetics should abhor sugar, measure carefully any bread, cereal, potato, rice or macaroni, but eat five per cent vegetables freely." It is the writer's practice to forbid sugar, to ration all cereals (including Indian corn) and cereal products, and to allow all vegetables freely excepting those starting with the letters P or B which are rationed. It will be seen that this rule rations all vegetables whose carbohydrate content is above ten per cent. (Pumpkin is the only important exception—its carbohydrate content is low enough for it to be allowed freely). Finally, fruits are all rationed, and fruit is the only dessert recommended. A ration of fruit is allowed for lunch and a similar one is allowed for supper.

Protein and Fat

From a study of fifteen diabetic subjects, Conn and Newburgh³ concluded that the feeding of isoglucogenic quantities of protein caused much smaller rises of blood sugar than did the feeding of carbohydrate. However, the maximum rise of blood sugar after protein feeding, in any individual patient, was 125 mgms. per cent. These authors noted that protein feeding caused lesser rises of blood sugar in less severe cases of diabetes. Gubbay⁵ has studied the question "Will protein feeding cause hyperglycaemia in treated patients who are adequately controlled or will such feeding prevent insulin hypoglycaemia?" The facts presented lead to the conclusion that the slow conversion of protein to glucose leads to small and

able arrangements are indicated in the table. It is obvious that the principles indicated are made use of. The smaller rations are not subdivided into six meals if tolerance is adequate. The effort to combat the late hypoglycaemia of Protamine Zinc Insulin by a bedtime ration of carbohydrate is widely accepted as being worthwhile.

Patients who carry a packed lunch of sandwiches can be catered for with slight variation in the routine. Allowance is made for the fact that vegetables are inconvenient. Two sandwiches (four slices of bread) and one portion of fruit make up too large a carbohydrate load for one meal, and these patients are advised to take one sandwich at lunch and the other at midmorning or midafternoon as is convenient.

Residual Carbohydrate	Insulin	Breakfast	Midmorning
75 gms.	nil	1 slice*	milk†
75 gms.	P.Z.I. 40 units	1 slice	
120 gms.	nil	2 slices	milk
120 gms.	P.Z.I. 24 units	1 slice	milk

*This is a slice of bread as defined in the text.

Lunch	Midafternoon	Supper	Bedtime
2 slices		2 slices	milk
1 slice	milk	2 slices	1 slice plus milk
2 slices	1 slice	2 slices	1 slice plus milk
2 slices	2 slices	2 slices	1 slice plus milk

†Seven ounces of milk.

unimportant effects. Accordingly, patients are advised to eat all protein foods normally. The attainment of a satisfactory minimum is ensured by simple enquiry into the habits of the individual. (Children, of course, require generous portions of protein foods).

Fats have no effect on blood sugar levels and are not rationed in this system of diabetic diet. However, it is necessary to explain the high calorie value of this food substance and to advise overweight patients suitably. It has been the author's experience that with advice to partake of fats sparingly and with the rationing of carbohydrate indicated below, most patients do not gain weight on this scheme, and many lose appreciably.

Practical Details

The proforma as used by the author is indicated below. It will be seen that a part of the daily carbohydrate ration is standardized. Orange juice at breakfast, fruit at lunch and at supper total 30 grams. Unrationed vegetables are advised both at lunch and at supper in average portions of two different vegetables at each meal. For this a near guess of 20 grams is sufficient. (The approximation in regard to the total is acceptable. The effect on the blood sugar in any case is small). A daily ration of milk is recommended for all patients. An average glass of milk, seven ounces, contains ten grams of carbohydrate, and two or three glasses a day are recommended—skimmed milk for overweight patients. Thus there is left a residue of about 75 to 120 grams of carbohydrate remaining to be prescribed. This is prescribed by filling in the blank spaces on the proforma with a total of five to eight slices of bread, ready sliced. (A commercially sliced one pound loaf of bread contains fifteen slices and two crusts). Examples of suit-

Proforma

The introduction to the proforma explains the general rules of what is allowed and what is not allowed. The allowances for individual meal times are then indicated—this section alone is reproduced below. The remainder of the text gives lists of exchanges for bread and rationed vegetables, and for bread and biscuits. Lists of "one portion" (ten grams of carbohydrate) of fruit and of unrationed vegetables are also given.

It is clearly indicated that one slice of bread ready sliced is from a one-pound loaf that has been commercially sliced into fifteen slices and two crusts.

In using the proforma the physician merely has to fill in five to eight slices of bread and two to three glasses of milk. The exchange for bread and breakfast cereal should also be entered. In calculating such an exchange—the only one required—allowance must be made for a specified portion of milk to be taken with the breakfast cereal. (One slice of bread equals 15 gms. carbohydrate. ¼ ounce dry breakfast cereal equals 5 gms. carbohydrate. 3½ ounces milk equals 5 gms. carbohydrate. Thus two slices of bread may be exchanged for 1¼ ounces of breakfast cereal and 3½ ounces of milk).

Breakfast

Grapefruit, one half; Bread, _____ slices ready sliced; One Egg and/or Bacon, as desired; Tea or Coffee, as desired; Milk or Cream, few teaspoons.

You may exchange the half grapefruit for two ounces of fresh orange juice.

You may exchange the bread for _____ ounces of breakfast cereal plus _____ ounces of milk.

Midmorning

Lunch

Clear Soup, as desired; Average helping of meat or fish or cheese or eggs, as desired; Average helping unrationed vegetables, as desired; Bread, _____ slices ready sliced; Fruit, one ration (see list).

Midafternoon

Dinner

Clear Soup, as desired; Average helping of meat or fish or cheese or eggs, as desired; Average helping of unrationed vegetables, as desired; Bread, _____ slices ready sliced; Fruit, one ration (see list).

At Bedtime

Note: At mid-day lunch or at the evening dinner you may give up one or more slices of bread in exchange for rationed vegetables according to the list of exchanges. You may also exchange two-thirds of a slice of bread for one extra portion of fruit.

Summary

The theory and practice of a simple diabetic diet is presented. Frequent weighing of the patient

substitutes for calorie calculations. Protein and fat are not rationed. A daily ration of 150 to 200 grams of carbohydrate is allowed. The make up of this ration and its distribution is governed by simple principles. The use of the proforma allows accurate prescription of the diabetic diet in a few minutes.

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**The Canadian Red Cross
Blood Transfusion Service**

January, 1951

Name of Hospital	Total Patients Transfused	Total Bottles Used	Percentage Returned Unused
Winnipeg General	255	437½	49%
St. Boniface	216	369	36%
Misericordia	85	128	37%
Grace	98	133	41%
Deer Lodge	54	105	36%
Children's	24	15	—
Victoria	36	53	13%
St. Joseph's	29	40	37%
Concordia	4	4	69%
Municipal	3	3	—
Shriners'	1	1	—
Selkirk General	20	30	—
Portage la Prairie	7	10	—
Brandon	59	81	—
McKellar Hospital, Port William	1	1	—
General Hospital, Port Arthur	14	14	—
St. Joseph's, Port Arthur	8	10	—
Others	43	69	—
Totals	956	1509½	—

Comments

In January we received about 2,000 bottles from blood donors and 1,500 bottles were actually used. In other words, there was a surplus of 500 bottles. Despite this large surplus we had at times difficulty in meeting all demands. The most important single cause of this relative shortage is the

unduly large amount of blood ordered in excess of what is actually used. It is infinitely preferable always to have blood in the central bank to cover the needs of any patient than to have blood waiting for days on end in a hospital refrigerator against the possible need of one patient. May I ask that more use be made of the system of ordering several bottles of blood, some to be delivered and some to be retained, fully prepared, in the Red Cross Depot against possible need.

To give a comparison, the Hamilton, Ontario, Depot of the Transfusion Service has returned to it less than 15% of the cross-matched blood issued, whereas in January the Winnipeg Depot had returned to it 38% of the cross-matched blood issued. This figure is far too high and is a serious obstacle to smooth operation of the blood bank. I would beg all medical men and surgeons in particular, to give this matter serious thought. Please do not order blood in unnecessarily large amounts. If complications arise in your case we will always have blood in the Depot to meet your needs providing we can receive from you this type of co-operation.

Cecil Harris, B.Sc., M.D., M.R.C.P.,
Provincial Medical Director.

February, 1951.

CASE HISTORIES—SURGICAL

Carcinoma of Rectum Abdomino-Perineal Excision

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This is the thirteenth of a series of Case Histories which will appear in the Review each month. The purpose of these publications is not to present rare or unusual cases but rather to consider the routine management of common surgical cases.

Case No. 45-8,407. Mr. J. H., St. Boniface Hospital. Color, white. Age, 60 years. Occupation, Section man, C.N.R. Date of admission, May 2, 1945. Date of operation, May 9, 1945. Date of discharge, July 20, 1945.

Complaint on Admission

1. Backache, 6 months. 2. Blood in stools, 4 months. 3. Pain around the rectum, 2 months. 4. Weakness and tiredness, 2 months.

Present Illness

In October, 1944, patient first noticed that he was getting a backache every night after a day's work. He had always done very heavy manual work for many years, lifting railway ties at Fort Churchill and only recently developed backaches or "uncomfortable feeling low in the back."

On December 20, 1944, he began to notice an increasing constipation. His bowels were previously "regular as a clock." One morning in December he woke up with diarrhoea (4-5 stools in the course of a few hours) and noticed blood in the stools. There was about $\frac{1}{2}$ cupful of red blood. He continued working as usual but noticed blood in stools on several occasions during the next month. Sometimes the blood was red and at other times tarry black.

He then went to see a doctor (January 19, 1945), who took a look at his anus, but did not examine him, and informed him that he had "outside piles," and prescribed suppositories. This did not relieve him. His backaches were becoming annoying. He returned to his doctor and got 2 injections for his haemorrhoids at 2-week intervals.

In March, 1945, after constipation of 2 days he took a laxative and then developed diarrhoea (6-8 stools a day), the stools tinged with blood. He drank some ice and snow water while at work and attributed his diarrhoea to this. From then on diarrhoea was more or less a daily occurrence; the stools became very offensive, with mucous, slime and variable amounts of blood. Tenesmus and pain around the anus were becoming more severe. There was no nausea or vomiting. Appetite was good. He noticed that he was becoming

very weary and tired early in the day, and could not keep his pace at work with the other men.

Inventory by Systems

Eyes—Good. Reads very little.

Ears—Hears well. No vertigo or tinnitus.

Respiratory—No sore throats, but coughs up phlegm. No haemoptysis. No chest pain. Can walk miles without dyspnoea.

Cardio-vascular—No history of rheumatic fever or syphilis. No palpitation. No retrosternal pain. No dependent oedema.

Gastro-intestinal—See present illness.

Genito-urinary—No complaints until recently when he voids 2 times a night and gets urgency during the day. No haematuria.

Nervous system—No headaches. Cannot sleep well lately on account of backache and disturbed by diarrhoea.

Metabolic—Some loss of weight in past six months (180 pounds to 163 pounds).

Genital—Priapism frequent—never "bothered" with this before.

Past History

Appendectomy, 1920. Tonsillectomy, 1924. Epigastric herniotomy, 1925. No other illness, operation, or accident.

Family History

Father—Age ?—alive in Europe.

Mother—Age ?—alive in Europe.

Five sisters—All living in Europe.

No brothers.

Personal

Patient is a bachelor who has worked hard all his life. He works on a railroad gang in Fort Churchill; sleeps in bunks; reads very little. Food is very carelessly prepared—consisting chiefly of meat and bread. The water supply comes from creeks, rivers, or snow. He smokes moderately and drinks occasionally.

Physical Examination

Patient is a big, heavy-set man, with healthy weather-beaten reddish face, with no obvious pain or distress, and appears fairly well nourished.

Head and Neck:

Cranial nerves—Intact.

Eyes—Some pallor of sclera, otherwise normal. Pupils react to light and accommodation.

Ears—Normal, but packed with wax in canal, especially right.

Nose—No obstruction.

Lips—Some pallor.

Tongue—Moist, slightly coated.

Teeth—upper denture. Lower, fair shape.

Throat—Post-nasal discharge. Tonsils out.

Neck—Submaxillary glands appear larger than normal; soft. Thyroid not palpable. No distended veins. No Virchow gland.

Chest:

Heart—Normal size. Apex beat at 5th inter-space, $3\frac{1}{2}$ inches from midline. Rhythm regular. Rate 76 per minute. Blowing systolic murmur at base of heart, radiating to left. Blood pressure 145/65.

Lungs—Well built thoracic cage with good excursions. Few rales at apices which clear after cough. No rhonchi. Tactile fremitus normal. No dullness on percussion.

Abdomen—Normal contour. Epigastric mid-line scar and McBurney scar. No tenderness. No masses seen or felt. Liver and spleen not palpable. No herniae. Reflexes present and equal.

Extremities:

Upper — No deformities. Movements good. Strength good.

	Right	Left
Reflexes		
Biceps	††	††
Triceps	††	††
Supinators	††	††

Lower—No deformities. Movements good. No wasting. Moderate varicosities of both legs. No oedema. Plantar warts present.

	Right	Left
Reflexes		
Knee	††	††
Ankle	††	††
Babinski	V	V

Rectal:

Anus—Red, excoriated, inflamed. Stained with dark tarry discharge. Protruding mixed haemorrhoids. Mucoid discharge—dark and dirty.

Sphincter—Relaxed.

Digital—In right lateral position. Rectum hollow and empty. At tip of finger and bimanually, could feel a hard mass, rough, nodular, irregular and finger can be inserted into this growth which encircles the entire circumference of the intestinal lumen. There is some fixation anteriorly, but otherwise it can be moved freely. Dark, tarry, bloody stain on finger after removal.

Prostate—Grade ii. No hard nodules palpable. Normal consistency.

Scrotum—Both testicles in scrotum. Some eczema of scrotal skin. Normal sensation in testicles.

Clinical Laboratory

Urinalysis—May 3, 1945. Color, straw. Reaction, alkaline. Specific gravity, 1.025. Albumin, 0. Sugar, 0. Microscopic, negative. May 26, 1945. Post-operative specimen acetone, 0. Diacetic, 0.

Blood—Red blood cells, 4,270,000. Hemoglobin, 85%. Color index, 1. White blood cells, 8,400. Differential — Polymorphonuclear neutrophils, 74%; lymphocytes, 26%.

Wassermann—Negative.

X-ray—May 3, 1945. An opaque enema passed around to the caecum without difficulty. There is a filling defect present in the lower portion of the sigmoid and upper rectum. This is probably a new growth. Marked osteo-arthritic changes are noted in the lumbar bodies. (Dr. F. Miles).

May 17, 1945—Plain film of the chest with the portable machine. Diaphragms are normal. Heart and great vessel shadows appear normal. Infiltrative changes are seen in both bases, for the most part peribronchial in nature, indicating a septic process. (Dr. F. Miles).

Sigmoidoscopic — May 4, 1945—Ulcerating growth—bleeding freely—about 6 inches from ano-rectal junction. Biopsy taken—small piece of tissue from rectum. Adenocarcinoma grade iii.

Pre-operative Diagnosis

Carcinoma of recto-sigmoid junction.

Indication for Operation

Ulcerating lesion of rectum confirmed by biopsy as adeno-carcinoma. No evidences of metastases in spine or lungs. Growth, although encircling the entire lumen, and probably suggesting one year's duration, is nevertheless movable and may only be fixed anteriorly to the bladder. Exploratory operation is indicated with the hopes of resecting the lesion. General condition of patient, apart from some chronic sepsis in lungs, is excellent.

Pre-operative Care

Explained to patient that he would have a permanent colostomy, along with indication and discomfort of same. Received permission for operation.

May 2, 1945—High protein, high carbohydrate, low residue diet. Ascorbic acid 300 mgms. daily. Multiple vitamins and beminal, 3 tablets daily. 3 gms. of succinyl sulphathiazole OH iv day and night. Daily colonic irrigation. Mild saline purgative every morning. He was in a comparatively good state of hydration and nutrition, and was given only 500 cc. of blood the day pre-operatively. In the morning before the operation, a duodenal tube was passed and left in the stomach. An indwelling Foley catheter was strapped in.

Detailed Description of Operative Technique and of Operative Findings

Operation — One-stage combined abdomino-perineal resection.

Incision—Patient in Trendelenberg position. Left paramedian incision 1 inch from midline, extending from symphysis to a point above umbilicus. Incised skin, anterior fascia of left rectus sheath. Retracted rectus muscle. Incised posterior sheath and peritoneum in same line.

One could feel a firm constricting lesion in the region of the recto-sigmoid junction. About an inch above the bladder, the peritoneum was glassy

and puckered. Mild pressure at this point showed it to be thinner than the rest of the growth.

Exploration—Examined entire large bowel, stomach, especially liver, for metastases. No metastases found. No mass was palpable in the rectum. No glands palpable along aorta or in the region of the growth.

Redundant sigmoid picked up, and a point was selected as the site of the future colostomy, allowing an extra 3-4 inches of sigmoid for protrusion beyond skin margin. An opening was made through an avascular area in the mesosigmoid next to the bowel and a rubber tube was run through and a clamp applied to both ends of the rubber tube so as to form a sling around the bowel to be used for traction.

The small intestine was packed off with large abdominal pads. The superior haemorrhoidal vessels were dissected out just above the sacral promontory and doubly ligated with chromic catgut i ligature. The parietal peritoneum was now incised on either side of the pelvic colon and rectum, close to the meso-colon, and the two incisions joined at their inferior ends at the peritoneal reflection between the rectum and the bladder. The rectum was now mobilized by blunt dissection with the fingers of the right hand, slipped into the hollow of the sacrum, separating the rectum posteriorly as far as the tip of the coccyx. The dissection was then carried laterally to the triangular fascial bands containing the middle haemorrhoidal vessels, which were hooked around the finger, clamped and ligated on each side. The dissection was then continued anteriorly along a line of cleavage as far as the base of the prostate gland. No other vessels were ligated during this dissection. The rectum was now freely mobilized posteriorly, laterally and anteriorly. The colostomy was then planned. The proximal colon was pulled up and the point in the abdominal incision through which the bowel passed freely was marked off. At this point the subcutaneous fat was separated from the anterior rectus sheath; the rectus muscle retracted medially and the anterior and posterior sheaths incised transversely, to prevent strangulation of the portion of colon intended for the colostomy (according to technique of Charles Mayo).

A Payr clamp was then pushed through the middle of the left rectus muscle and applied to the sigmoid at the point selected for the colonic stoma. Another Payr clamp was applied to the sigmoid distal to the first. The bowel was walled off with gauze pads and divided with the cautery. The proximal end of the divided sigmoid was now brought well out of the abdomen via the hole in the left rectus muscle, covered with a rubber glove tied over the end, wrapped in a towel and laid on the abdominal wall. The distal stump of the sigmoid was closed by an over and over suture of

chromic catgut across the closed Payr clamp. As the clamp was removed, the suture was pulled, thus inverting the crushed end. A second purse-string suture was placed as a safeguard against leakage and a small rubber cot tied over the end of the stump. The entire dissected lower segment was pushed into the hollow of the sacrum. The cut edges of the peritoneum were approximated with a continuous suture of chromic catgut No. 1 to form the new pelvic floor. The lateral space between the pelvic colon and the abdominal wall was completely closed off. The abdominal pack was removed and the sponge count certified correct. The parietal peritoneum was closed loosely on either side of the colonic stoma with a continuous chromic suture No. 1. The anterior rectus sheath was closed with a continuous interlocking chromic No. 1 suture on either side of the colonic stoma, leaving sufficient room around the bowel to allow an index finger to be easily introduced into the abdomen. The skin was closed with interrupted mattress sutures of silkworm gut. A purse-string was now placed about $\frac{1}{2}$ inch below the Payr clamp on the colonic stoma. the clamp removed, and a rectal tube introduced into the lumen of the bowel for about $\frac{1}{2}$ inch and tied in place.

Vaseline and gauze dressings were now built around the 3 inches of protruding colon above the skin level and an ether cardboard box was fashioned around it as protection from pressure. An elastoplast dressing was applied.

Perineal operation—The patient was now placed in the lithotomy position. The buttocks and anus washed, cleaned, painted with merthiolate. A heavy braided silk purse-string was placed around the anus tightly to prevent leakage. A triangular incision was made with the base at the perineum and the apex at the coccyx. The lateral incisions were carried down to the level of the levator ani muscles on each side. The inferior haemorrhoidal vessels were clamped and ligated. A finger was inserted under the levatores ani and the muscles cut across on either side. A transverse incision was made through the fascia propria in front of the coccyx and the hand entered the hollow of the sacrum where the closed end of the recto-sigmoid could be seized and pulled out through the perineal incision. The middle sacral artery was ligated. The rectum was removed from above downward by sharp dissection of the bowel from the prostate. All bleeding points were carefully ligated. A large square of fine rubber sheeting was pushed into the cavity and this was stuffed with gauze pads to support the new pelvic peritoneal floor.

Anaesthetic

Pre-medication—Nembutal gr. iii h.s. Morphine gr. $\frac{1}{4}$ and atropine 1/150 pre-operatively.

Condition of patient—Temperature 98°F. Pulse, 60. Respiration, 20. Blood pressure, 118/70.

Anaesthetic—Metycaine 160 mgm. in 4½ cc. spinal fluid. Anaesthetic level, T.6. Supplemented by ether 8 oz. Ether mask.

Time—8.15 to 10.15.

Unfavourable features—Systolic blowing murmur at apex. X-ray evidence of chronic septic chest.

Stimulants—Ephedrine gr. ¾.

Comments — General anaesthetic given at patient's request. No haemorrhage. Sponge count correct. Rectal pack.

Gross and Microscopic Description of Tissues Removed

May 9, 1945—Tissue No. 1353-4-5. Report on Large Bowel (Abdomino-perineal). At recto-sigmoid junction mucosa shows a large ulcerative lesion surrounding the wall; it is band or cuff like and 2 to 2.5 inches wide; anterior wall is thin and all coats are obviously involved. Three small retrorectal glands are hard and firm. Micro—Almost grade iii adenocarcinoma; invasion of deep coats, down to serosa, at least in anterior wall. Three lymph glands show carcinomatous invasion.

Final Diagnosis

Ulcerating Adeno-carcinoma of rectum, grade iii.

Progress Notes Including Post-operative Care During Stay in Hospital

May 9, 1945—Returned to the ward in good condition. Pulse 96, good quality. Respiration 20. Blood pressure 128/70.

Immediate post-operative orders.

1. Continuous bladder drainage. 2. Continuous gastric suction. 3. Morphine sulphate gr. ¼ hypodermically p.r.n. for pain. 4. Chart fluid intake and output. 5. Carbon dioxide hyper-ventilation every hour for six times, then q.i.d. 6. Oxygen continuously. 7. Blood transfusion continued, 1000 cc. of blood and 1000 cc. of 5% glucose and saline. Spent a good post-operative day and night. 8. Sodium sulphadiazine 5 gm. given intravenously. 9. Colostomy tube attached to drainage bottle.

May 10, 1945—Penicillin 50,000 units OH iv. given. Sulphadiazine 5 gm. given in 1000 cc. of 5% glucose and saline. Condition of patient good. Blood pressure good throughout.

May 11, 1945—Treatment continued as above. Tidal irrigation of the bladder started.

May 12, 1945—Gastric suction removed. No distension. Parenamine (amino-acid) 1000 cc. intravenously. Intravenous fluids discontinued; taking fluids by mouth.

May 14, 1945—Perineal pack removed. Taking fluids freely by mouth. Sulfasuccidine gr. xv OH iv.

May 15, 1945—Foley catheter removed. Perineal irrigations commenced.

May 20, 1945—Patient complaining of sharp substernal pain for 2 hours. Temperature rose to 102°. Pulse 76. Some dullness and decreased breath sounds right chest in axilla—began coughing.

May 19, 1945—Plain film of the chest with the portable machine. Diaphragms are normal. Heart and great vessel shadows appear normal. Infiltrative changes are seen in both bases, for the most part peribronchial in nature, indicating a septic process. (Dr. F. Miles).

Inhalations commenced. Oxygen given freely. Penicillin 100,000 units OH iv. Much improved the following day. Temperature dropped and remained normal. Stitches removed.

May 22, 1945—Up out of bed. Taking a full course meal.

June 2, 1945—Patient walking about on wards. Taking baths. Given instructions in management of colostomy.

June 20, 1945—Allowed outdoor privileges.

July 20, 1945—Discharged.

During entire post-operative course, patient made very good progress except for the spike of temperature on May 20, and the substernal pain. His blood pressure was always good, and his pulse throughout excellent. He was kept in the hospital for several weeks longer than was actually necessary, since he lives 600 miles from Winnipeg, all by himself; he preferred to be hospitalized until such time as the perineal wound was completely healed.

Condition on Discharge

General condition of the patient was excellent. He was a little upset over the fact that he had to nurse a colostomy. But after explanation, and reassurance, he appeared quite satisfied.

Follow-up Notes Since Leaving Hospital

August 10, 1945—He stayed in a hotel in the city for 3 weeks post-operatively and then returned to his home.

October 2, 1945—Returned to work.

January 23, 1946—Came in for examination; presented at the Tumor Clinic, St. Boniface Hospital. Colostomy working well; no stricture or prolapse; no excoriation; gained about 15 pounds in weight. General condition excellent. Advised to report in 1 year.

December 27, 1946—Reports that he is in excellent condition. Has not lost a day's work on the railway. Has an opportunity to get married, and inquired regarding the legal obligation involved, regarding the amount of information he should furnish his future wife. He was advised that in all fairness to his wife and his future happiness, that he should inform her regarding the presence of his colostomy.

December 19, 1947—Presented at Tumor Clinic, St. Boniface Hospital. Condition excellent.

Colostomy working well. Very unhappy since marriage was refused on three occasions when he informed his fiancées of his colostomy. General physical condition is excellent.

March, 1948—Was in at Tumor Clinic, St. Boniface Hospital. Working steadily. Resigned to be

a bachelor. Condition excellent.

April, 1949—Condition good. No complaints. Colostomy satisfactory.

March, 1950—Reported at Tumor Clinic. No loss of weight. Carries on normally.

February, 1951—Condition still excellent.

ANAESTHESIOLOGY

Abstract

Some Contributions of Anaesthesiology to the General Practise of Medicine

E. M. Papper

New England Journal of Medicine, November 9, 1950

Dr. Papper opens this delightful paper with a "pat on the back" for anaesthetists. He feels that the real contributions made in this field of medicine are enough to justify its existence as a specialty. He also thinks anaesthetists have been too slow in disseminating the knowledge at their command. The purpose of this discussion is to show how anaesthesiology has contributed methods which can be of value to the general practice of medicine.

First he states the case of a prominent citizen who had accidentally taken an excessive dose of barbiturates. He had been found in his room "comatose and cyanotic with labored and obstructed respirations." Several physicians saw him and ordered stimulants and analeptics with no improvement. A useful life was thus lost because no physician present understood the problem of the obstructed airway.

The methods he mentions in the proper handling of this type of problem are:

- (1) Insertion of a pharyngeal airway.
- (2) Introduction of a catheter into the trachea.
- (3) Aspiration of secretions from the tracheo-bronchial tree.

The second problem he discussed is that of apnoea and depressed breathing with resulting asphyxia. The only way to properly treat this condition is by "efficient pulmonary ventilation through an open functional airway." He condemns the use of analeptics and other forms of stimulation such as anal dilatation. He includes a sketch of a very simple, portable apparatus which can be used for adequate artificial respiration. It looks like a rubber face mask with bellows attached which can be compressed forcing air or oxygen into the patient's lungs. It is provided with an expiratory valve, an inlet for air or oxygen and a safety flow off valve so there will be no danger of submitting the alveoli to abnormally high pressures.

The third problem he tackles is that of anoxia and the use of oxygen therapy. The principle behind this form of treatment is summed up in the following quotation: "To execute efficient therapy with oxygen it is necessary to ensure its access to pulmonary alveoli and not merely to offer it to the patient's face." There should be a clear airway and adequate pulmonary ventilation in order to get maximum results.

The anaesthetist has also learned a great deal about analgesic agents. The harmful effects of narcotics, such as respiratory and circulatory depression, gastro-intestinal and urinary disabilities, and problems of addiction, have made it worth while to look for other methods of pain relief. One of these, intravenous procaine, has been useful in cases of burns, fractures, sprains and surgical operations. There is no satisfactory explanation for the mechanism of its action and results are not always reliable. Another non-narcotic method of pain relief is by nerve blocking. One of the most useful of these is the intercostal nerve block. In cases of multiple rib fractures with possible intrathoracic complications, pain relief obtained by immobilization of narcotics leads to decreased pulmonary ventilation, accumulation of secretions, infection and anoxia. Pain relief by blocking the appropriate intercostal nerves promotes rather than impedes respiration. Another useful procedure is the performance of suprascapular nerve block. It gives symptomatic relief of painful shoulder lesions and a valuable analgesic method when used along with direct measures of therapy.

In some cases of coronary disease, two zones of hypersensitivity or trigger areas may be found in the pectoral muscles. When these are infiltrated with a local anaesthetic, symptoms are often relieved. This method works best for patients whose pain syndromes were precipitated by myocardial infarction—rather than the "angina of effort" types of pain.

In conclusion he sums up the contributions of anaesthesiology to medical practice as including—measures designed to combat asphyxia, circulatory depression, and a variety of painful states. "It is a matter of mutual responsibility that the general physician be aware of these potentialities for better patient care."

M. Wood, Dept. of Anaesth.,
General Hospital.

CANCER

Cancer in A Century of Progress*

(1850-1950)

(Excerpts of an address by Dr. P. H. T. Thorlakson, Associate Professor of Surgery, University of Manitoba.)

The science and the practice of medicine are in a state of constant evolution. During the past one hundred years, the cause and cure of many distressing and fatal diseases have been discovered. A striking example of this fact is that in the period immediately following the year 1850, the spectre of infection still hovered over the operating-room like a evil spirit. No one knew what it was or from whence it came. At that period, sixty to eighty per cent of patients suffering from compound or open fractures of bone died of infection. To the everlasting glory of British medical science, Lister the surgeon, was able to prove that germs of infection entered the wounds of the flesh from the air and from unsterilized instruments and dressings. These infections were responsible for many deaths. Lister discovered that the cleansing and sterilization of instruments could practically eliminate the complications of infection from the operating-room and from the wards of the hospital.

The application of these and many other scientific discoveries to the practice of medicine in the prevention and cure of many diseases has resulted in a sharp increase in the span of life for the average man and woman living today. In 1850, life expectancy was 39 years; in 1950 it is 63 years. The fact that people live longer today explains, to a large extent, the marked increase in the incidence of cancer in the total population. Cancer is, in some mysterious manner, linked up with the ageing of our tissues.

Until the turn of the century, the cure of cancer was practically unknown. Before 1900, there were a few leaders in surgery who were advancing the frontiers of surgical knowledge, but their progress was not immediately applicable or widely available in the treatment of cancer. In addition to developing the surgeon's knowledge and skill in the performance of complicated and difficult operative procedures to remove cancerous growths, other improvements were also necessary to make the patient safe for the surgery often required. Anaesthesia, under which pain during the course of an operation is eliminated; antisepsis and asepsis, by which fatal infections are prevented from entering a wound; blood transfusions to support the patient before, during and after a major operation; and, within the last decade, sulphadiazine and penicillin and allied chemicals to con-

trol and combat serious infections. These facts are mentioned to show that striking successes in one field of science must, of necessity, be accompanied by gains in many other fields. A host of trained research workers are involved in this forward march of science.

There are three facts about cancer which everyone should know. First, great advances are being made in our knowledge of this disease, the manner in which it develops and the measures that should be adopted in each case to bring the process under control. The second fact is that, by and large, cancer is at the beginning limited locally, and remains a local disease for a varying time, depending upon the activity of that particular form of the disease—that is, cancer in any site may be acute or chronic, fast or slow growing. Thirdly, cancer is curable by present methods of treatment, under certain conditions.

It is important and reassuring to realize that over two-thirds of cases of curable cancer can be seen or felt by the doctor with the aid of only simple tube-like instruments and a good light. Thus, cancer of the skin, the lips, the tongue, the throat and nose, the thyroid gland, the breasts, the female genital organs and the lower bowel (the rectum) can be detected without any elaborate diagnostic equipment or organization. The confirmation of the diagnosis is established by the examination of a small piece of the tumor under the microscope. By combining the findings obtained by the doctor in his physical examination of the case and the information obtained by the analysis of the tissue removed, the nature of the growth, its origin and habits, are determined. After that, the matter of correct treatment is decided.

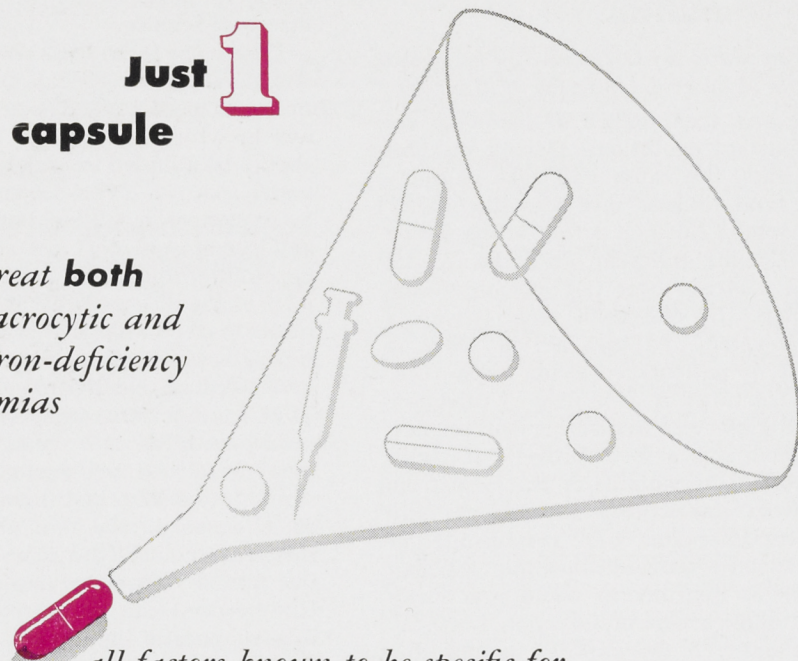
As in all other diseases, a cure depends on many factors. No matter how much we know about a disease, or the measures that have been discovered to control such disease, it may still be fatal if diagnosis is delayed and treatment withheld. Delay may be disastrous in the treatment of cancer. Herein lies the value of public education and the intelligent co-operation of the patient.

Viewed from the vantage point of the year 1950, the prospects for the patient with cancer are better than at any previous time. A hundred years ago the situation for the patient was hopeless. Fifty years ago it was somewhat improved. By 1925 substantial gains had been made in our understanding and treatment of this disease. During the past 25 years in clinics over the world, every year has shown a steady increase in the survival rates for cancer. Because of the achievements of the past and because of the extensive and fundamental research now in progress on cancer, conducted by some of the keenest scientists of our day, we have good and sound reason to be optimistic about the future.

*Reprinted from "Canadian Cancer Society Newsletter," February, 1951.

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Hospital Clinical Report

Ten Minutes of Your Time*

R. A. Sprenger, M.D.

Mr. Chairman, Ladies and Gentlemen:

I look with favour on the fact that you have but recently dined and are now comfortably ensconced in your chairs. I would approach the subject I wish to discuss with much greater trepidation if I had to address you in the (now remote) ravenous state in which I assume you entered this theatre!

The passing of the old family physician has been lamented and condemned. I wonder if we have retained all of the good features of his type of practice in our so-called improved present-day effort. Are we sufficiently cognizant of our limitations as we proudly review our achievements? Have we allowed our time-honored right of diagnosis to be divorced from our better judgment by extraneous bastard influence of the sub-specialties of medicine? It is this insidious infiltration of the lesser, more technically refined specialties of medicine, and the need, as I see it, for a return to the better qualified, wisdom-seeking, generally rounded out medical practice, that occupy my attentions.

I refer to the lesser adjuncts to diagnosis; specifically electrocardiography, radiology, and pathology.

Electrocardiography is, of course, merely an apology for a simpler, better method of obtaining objective evidence of many forms of heart disease. The fact that at the present time the subject reigns supreme does not preclude the possibility in the future of some more simple and more certain method.

Unfortunately the study of electrocardiography has acquired social prestige and is apparently deemed by some more radical exponents of the system indispensable in a complete physical examination! These reformers may be viewed discussing (clinically) the desperate status of a patient's (clinical) heart disorder with uncontrolled emphasis on the wiggles and waggles of a distorted beam of light on photosensitive paper. Listen! Do they not appear all-knowing—everything under control? But I will wager they have delegated the taking of the patient's history of precordial pain to a junior interne. And, behold! these minor gods of electricity, jabbering like escapees from the most recent flying-saucer raid, deciphering dilemmas hitherto allocated to destiny, and coding hieroglyphic interpretations approached in illegibility only by the average

physician's prescription;—are we so simple that we must be duped into worshipping an impossibility?

For electrocardiography must always remain merely a corroborative aid to clinical diagnosis of a conceivably probable disorder in the patient under investigation. But look how the physics of an electrocardiograph machine are extolled by those reputedly "in the know" in terms of the latest photosensitive intricacies, and look how the virtues of an electrocardiograph tracing are reviewed in terms of diagnostic pride of achievement in the otherwise impossible, and note also the atmosphere of almost reverent astonishment when the autopsy findings confirm the electrocardiographic suggestion!

Next, the radiologist: blessed with superb man vision registered on film in shades of grey—revered by orthopedists, challenged by chest men, disregarded by surgeons, doubted by alert internists and defended by dermatologists.

Regarded in his rightful sphere, that of identifying the site of the lesion and defining its intrinsic peculiarities in terms of opacity to x-rays, he may be tolerated and indeed even be helpful. But must he diagnose disease? Must he tell us the lungs show pneumonia and not pulmonary infarction and again must he vouch for the infective nature of an infiltrative process when the history points to cancer?

It is all very well to note that we must be very impressionable if we listen to what he has to say as being gospel truth. But that appears to be the situation at present. Without healthy doubt no progress can be made.

Radiologists spend much of their working hours in the dark. This may account for their x-ray interpretations, although a more likely explanation is that they are nourished in occult blind faith in their power to diagnose disease without ever having to clinically examine the patient.

It seems to me that the rose-colored glasses used by the fluoroscopist are superfluous accessories. Present-day radiography has risen unleashed to find itself in such power that the outlook must indeed appear rosy.

Finally, the pathologist: meagre man granted omniscient power by those who fear to challenge the unknown and unfamiliar. Enjoying less confidence than his aforementioned confreres, he too, dictates to clinical judgment and is often wrong, because he, once again, knows little of the warm body from whence comes the cold lifeless specimen. He will be quick to tell that this is not his fault, but rather his unfortunate lot due to the

*Read at a Clinical Luncheon, February 5, 1951, Deer Lodge Hospital.

sloth of the physician in supplying this data. However, he has not been trained to appraise the clinical information available, so that it may be just as well to allow him his complaint and forget about the whole matter. Unless the clinician is interested enough to co-ordinate his intimate knowledge of the patient as a person with the gross anatomical picture clarified by the pathologist, erroneous implications will arise.

The clinical-pathologist, eminent in empiricism, would analyze the patient's blood, sweat and tears, and from their composition, blend together a composite picture of the pathogenesis of disease. He would have you believe that alchemistic mysteries hold the secret of diagnostic success or failure. Thoroughness of investigation is apparently judged by the completeness of laboratory curiosity and only secondarily by the transcribed thoughts and clinical appraisal of the attending physician.

Why take imponderable histories? Why arrange exhaustive physical examinations? Better take a drop of some superfluous body excretion and test it for the ashes abandoned by the fires of metabolism! And then, not content, distill your findings down to the point of generalities and say that if 0.45 micro-micrograms exist, every future patient so blessed must have influenza!

And so we have reviewed this triumvirate of power, and found their present prestige somewhat tinselled over and deserving of less blind confidence than we at present seem to allot them.

Let us not jeopardize a clinical impression by leaning too heavily on the more attractive adjuncts to diagnosis.

Of course, I have left undone those things which ought not to be left undone but which I feel are more obvious and hence requiring of less exposition. I would ask you not to be swayed inordinately by the insinuations of the endoscopist, be he of the species bronchoscopy, esophagoscopy or gastroscopy.

For they know not what they see, and, in corollary complain that what they see thereof they have no knowledge. The so-called "blind-areas" of gastroscopic examination are conveniently loosely defined, and myopic vision is no great

disability, for perspective is not possible and honesty about this is one of their attributes.

It must also be apparent that the neurologists' divining rod, the electro-encephalogram, is of general use only in deciding on which side of the cephalic superstructure lies the distortion of integrated function.

Psychological testing, apart from its entertainment value is but infrequently solicited by the doctor and therefore has aroused no great commotion—results are always viewed with puckish reflection and do not interfere with honest clinical endeavour.

Also obvious are many of the other adjuncts to diagnosis, but of these another day!

Therefore, let not the effervescence which conceals the molten gold be allowed to distract and distort our sense of values. Let the changing face of medicine be, for once, an about-face, emphasizing the intrinsic priceless heritage of clinical wisdom gained through knowledge of the patient as a person (so well exemplified by the old family physician), and let it not be misled into a fools' paradise relying on the callous claims of those adjuncts to clinical medicine offering diagnosis—at a distance.

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Medico-Literary

J. C. Hossack, M.D., C.M. (Man.)

Jean Marie Charcot

The iniquity of oblivion blindly scattereth her poppy and deals with the memory of men without distinction to merit of perpetuity; and there are some whose deeds have not been forgotten but whose names will live to all generations.

Of these latter it is often the name alone that lives and the name lives only as a sound familiar to the ear but incapable of bringing before the mind's eye a picture of physical appearance or of a man in action. The features of Caesar are familiar to all, yet few who use his name can recall those of Galen. We can easily recognize a portrait of Alexander the Great but can remember little more than the names of those great Alexandrians, Herophilus and Erasistratus. In like fashion the warriors and conquerors who fought in the Crimea, at Richmond and Gettysburg, at Sedan and Kandahar are clearer in our memories than are the quiet scientists who waged war in another field against death and for the benefit of all humanity.

Of these men who have changed the world but of whom history has taken little notice one of the chief is Jean Marie Charcot. Few names are so often upon our lips in so many departments of medical science. Charcot-Leyden crystals, Charcot's Sign of arteriosclerosis in the legs (intermittent claudication), Charcot's Sign in facial paralysis, the Charcot-Marie Sign in goitre (digital tremor), Charcot's Disease (amyotrophic lateral sclerosis), Charcot-Marie-Tooth Disease, Charcot's Syndrome, Charcot's Joints, Charcot's Grande Hysterie, Charcot's Migraine, Charcot's Triad, Charcot's Hepatic Fever and there are more of these eponyms.

Who was this great explorer of the medical terra incognita? He was a Parisian, born in 1825 and, for his good fortune, born poor. His father was a wainwright not a mere mechanic but an artist. The carriages he built were things of beauty in which he took much pride and for which he charged a fraction of their worth, reluctant to see them go. The improvidence of the father increased the burden of his ambitious son, but, the will of the latter being strong, ways were sought and found for his advancement.

Charcot began the study of medicine when he was 19. Four years later he went, as Piorry's interne, to the Salpetriere where he remained for four years. During these years he gave his attention to many things but especially to diseases of the joints and upon this subject he wrote his graduation thesis. After graduation in 1853 he attached himself to one of the most prominent

Parisian physicians, Pierre Rayer, who remained his close and influential friend.

Both Piorry and Rayer were investigators of distinction. Piorry invented the pleximeter and pioneered mediate percussion. He wrote much and taught well. Rayer's name is associated with renal diseases on which he wrote a book and with diseases of the skin on which he wrote a treatise and compiled an atlas. The interests of both men, however, were wide and no system escaped their attention.

In 1857 Rayer advised Charcot to apply for a teaching position. A faculty appointment was regarded as the hall-mark of excellence for, while many applied, few were accepted. The basis of acceptance was the general approval of the Faculty and the method of proving fitness to hold an appointment was a sound and logical one—the applicant had to prove his worth before those whom he hoped to call his colleagues. Thus those who aspired to become teachers presented and discussed cases before the assembled Faculty. The discussion was not confined to the applicant's own cases but included that of presentations given by the other candidates.

At his first attempt Charcot failed dismally. He had no fluency and the "concours" was largely a test of oratory. He tried again in 1860 and would have failed had the decision lain only with his own presentation. But he did not fail. In the discussion of his competitors' theses Charcot amazed his critical audience. He displayed such a depth of clinical knowledge and such wide familiarity of the medical literature of all countries that the judges unanimously and enthusiastically awarded him the coveted palm.

Most of the much that Charcot knew he had learned in the Salpetriere and thither he returned in 1862, nor did he thereafter leave it. It was a gloomy, forbidding and depressing place. A sprawling collection of dismal buildings hedged in by sombre woods. To the young doctors of the time it was a place of banishment: to Charcot it was a treasure house.

The Salpetriere, as its name suggests, was originally a powder factory and was later also an arsenal. The demands of war have in all ages superseded the needs of peace and after many years of military use the ancient structures were abandoned so that the newest and best in arms might be fittingly housed in the newest and best in architecture. And so it came about that for years the Salpetriere lay empty and idle until a thrifty servant of the government saw in its old, useless, insanitary buildings an ideal place in

which to house old, useless and insane women. The walls which sheltered the inmates served also to imprison them and as an asylum-prison it remained until 1795 when it lost its prison function and became an infirmary. It was here that Pinel, in 1798, struck off the chains from the harmless insane and thereby, both literally and symbolically, freed these miserable wretches from the terrors and tortures that had been so long their lot.

Not only Pinel but also Esquirol, his disciple, served at the Salpetriere, the latter speaking out for humanity in the treatment of the insane with the fervour of an apostle and carrying his mission into every corner of France. Yet in spite of the great names with which it had been associated, to the then rising generation of doctors the Salpetriere was as a grave for professional advancement. The great, the rich, the powerful were not there and so the ambitious went where social progress was more likely and financial success more certain. To Charcot the things that others sought were of little moment and the things they avoided of infinite value. Here in vast, rambling structures was housed a city of 5,000 people, all ailing in body, in mind, or in both. And their ailments were of every system and of every sort.

On taking charge of the Salpetriere, Charcot's first employment was the establishment of a Pathological Laboratory. The age, poverty and obscurity of the patients made autopsies easy to obtain and frequent. The clinical study of patients was exact and careful. The facts gathered at the bedside were set beside those gathered in the dead house and diligently compared. No wonder Charcot's contribution to medical knowledge was vast. There was the great supply of material, the keen observation, the careful post-mortem study, the wide knowledge, the insatiable curiosity, the logical reasoning. Few have had access to so many patients and fewer still have had the ability to use them to such advantage. As with his great compatriot Pasteur, his motto was "I do not know: I will investigate." He sought for facts and for explanations that were uncolored by prejudice or theory.

When we contrast our present knowledge with the lack of it in the past we may feel inclined to discount Charcot's achievements. Today, not even a second year student would confuse Parkinson's Disease and disseminate sclerosis. Yet it was Charcot who differentiated them exactly. In his student days tremor alone was a diagnosis.

By 1866 Charcot had established free public teaching and his unique methods were attracting wide spread attention. At first these were given every Tuesday but later they were conducted on Friday also. His lecture room was the Pharmacy, a large room which had formerly been the kitchen—but the throng of visitors, native and foreign,

was too great for even this large hall. Eventually an auditorium capable of seating 600—and frequently over-filled—was erected to accommodate those who came to hear and see.

Chiefly they came to see. Charcot delivered his matter slowly and deliberately so that nothing might be lost by those to whom French was an unfamiliar language. But he had never been an orator. On the other hand "theatre" was instinctive to him. Various rivals called him a showman and so indeed he was. He set his patients upon a stage, lit from every angle, and played a spot-light upon them as they limped, shuffled, staggered or shook. Tall plumes were attached to the heads of those who had tremors capable in this way of being exaggerated. Charcot himself employed his great powers of mimicry to illustrate gaits, ties and other grotesque mannerisms and behaviours.

Seated beside the stage he discussed the signs and symptoms of the ailments from which each patient suffered. And when the stage was empty he unveiled a screen on which were shown lantern transparencies of the pathological lesions. This method of instruction, so unique and so enthralling to all who enjoyed it, spread his reputation far and wide. Basically Charcot followed the anatomico-clinical method of Morgagni, Laennec, Virchow and Rokitanski, linking together structural change and functional disturbance. The notes of each lecture were written by Charcot himself and later published.

Essentially, Charcot's way of presenting cases is very similar to that used today but it was original with Charcot and popularized by his students. The same may be said about his method of private teaching. Students were assigned cases to work up and upon these they were questioned. The same plan has been adopted in our own College only recently. Charcot made little effort to papeed his students. He insisted upon them using their eyes to see with not merely to look with. He insisted upon them being not simply hearers of his word but doers of it also. Tall, dark, almost saturnine in expression he awed as well as inspired his pupils. He would have them rid their minds of theories and stick to facts. He emphasized that a good nosologist was not necessarily a good diagnostician and taught his students to use their senses and their brains.

It is very true that great minds run in the same channels. Students of the history of medicine cannot fail to see a sameness in the ideas of Socrates, Hippocrates, Sydenham and others that we call the fathers of our profession. All these and indeed all physicians who can be called great saw in the patient something more important than his disease. During the past decade the prime importance of the one who suffers has been more widely

recognized. We may think that psychosomatic medicine is something new but, as the preacher wrote nearly three thousand years ago, "The thing that hath been is that which shall be, and that which is done is that which shall be done. . . . Is there anything whereof it can be said, see, this is new?"

Thus among Charcot's aphorisms we find this: "Claude Bernard has said: We must not subordinate physiology to pathology but the other way round. We must pose our problems from the actual data of clinical observation and then attempt to give a physiological explanation. To do otherwise is to lose sight of the patient and to distort our conception of the disease."

Other aphorisms are these: "If the clinician, as observer, wishes to see things as they really are, he must make *tabula erasa* of his mind and proceed without any preconceived notions whatever."

"In the last analysis we see only what we are ready to see, what we have been taught to see. We eliminate and ignore everything that is not a part of our prejudices."

"It is the mind which is really alive and sees things. Yet it hardly sees anything without preliminary instruction. Disease is from of old and nothing about it has changed. It is we who change, as we learn to recognize what was formerly imperceptible."

The enunciation of such statements today would create no excitement. But when first spoken by Charcot they were novel to the generation that heard him. Our whole advancement has been based upon recognition of what was formerly imperceptible. There was a time when only a few realized how potentially the mind and the emotions affect the body. Today we tend to lean so far in this direction that often we forget that somatic disturbances are not without effect upon the psyche. Only if the mind be indeed alive, only if the ideas of the moment be viewed in their proper perspective, only then can our minds be *tabulae erasae* or well scoured palimpsests.

Charcot well knew that much was hidden from his microscope. Behind the nervous and mental disorders which he studied he could see the determinism of hereditary predisposition and in environment he saw the soil which could nourish beneficial seeds. He recognized the infinite variety of manifestations which could thus arise and which left no clue that autopsy or microscopy could detect.

To Charcot's predecessors "tremor" was a satisfactory diagnosis and as for madness "why, what wasn't but to be mad?" This did not satisfy Charcot. He found degrees of madness and was the first to establish psychoneurosis as a category of disease. He was very familiar with hysteria

and was in a sense the grand-parent of psychoanalysis for Freud was among his pupils.

Charcot's contributions to the advancement of neurology were many and important. Our present knowledge of cerebral localization and functions we owe largely to him. Conditions which in his time baffled even the Faculty he described and explained so that now undergraduates find them easy to recognize. He was the first to give adequate descriptions of disseminate sclerosis, of amyotrophic lateral sclerosis and allied disorders. He arranged and classified cerebral, cerebellar and spinal diseases, he recognized the significance of cerebral aneurysms. His contributions on "functional" nervous disorders advanced greatly the slight knowledge then existing of these maladies.

But Charcot was more than a neurologist. During the time that he was professor of pathology (1878-1882) he contributed largely to a better understanding of diseases of the lung, heart, liver and kidney. Broncho-pneumonia, pulmonary sclerosis and pneumokonioses, scarcely existed in the literature until described by Charcot. He clarified the semiology of the respiratory diseases as also of hepatic cirrhosis, of biliary infections, of renal disease and of diseases of the joints. To him we owe the method of systematic arrangement (definition, etiology, pathology, symptoms, etc.) now so universally used in text books. Moreover Charcot was the first to use diagrams for illustrations. Hostile as were the Germans to every Frenchman (the countries were at war) they had only praise for Charcot who was regarded by his German colleagues as the greatest medical scientist of his time and one of the greatest of all time.

Yet, a consideration of all this still leaves Charcot only as a name. Let us look, then, at himself. Early portraits show him with his dark Corsican locks, thick eye lashes, high brow, clear cut features, sombre deep-set eyes and a disdainful, almost satanic, expression not unlike that of Napoleon at Brienne. As he grew older his tall figure bent and his spareness gave place to corpulence. His expression also changed and the harsh, imperious look became gentler. He made friends with some difficulty but those to whom he gave his affection found in him qualities of character which endeared him to them in an extraordinary degree.

His patients admired and respected him but held him in such awe that few attempted to deceive him and fewer still succeeded in their deception. He was cold and remote in his manner, yet many would testify to his unostentatious generosity and kindness. The wide extent of his charity was a secret only partially shared by his family.

From his father he inherited a carelessness for money and a love of art. The latter he applied to his work. Not only did he use his artistic powers

for the purpose of illustrating his lectures but also to record what he had observed. He left a large collection of drawings depicting gaits, deformities, facial expressions and the like. In this collection are sketches of the grotesque in sculpture as, for example, the gargoyles of Notre Dame Cathedral. He showed that in many cases what appeared to be figments of artistic imagination were in reality authentic representations of deformed or diseased persons. For example that gargoyle which, in his "Stones of Venice," Ruskin called "the ugliest thing in existence" proved, in Charcot's eyes, to be a true representation of bulbar paralysis.

At no time, save, perhaps, in his youth did Charcot have any concern about money. As early as 1858, even before he became a member of the Faculty, his friend Rayer had introduced him to a wealthy gentleman who placed his health in Charcot's care and paid him a retaining fee or annual honorarium of what would amount today to \$2,400. Moreover his wife was not only charming and devoted but was also very wealthy. He neither set nor collected the fees due to him. These matters were left to a secretary. It is possible that he had no idea of the size of his income. It is possible, also, that even had he been as impecunious as his father, he would have found complete satisfaction in his work.

Charcot's full day began at 8 when he arose. While he was dressing he had the newspaper read to him and after he had breakfast he was driven to the hospital, during which journey he read all the way. His hospital work kept him busy until noon. The afternoon he devoted to private prac-

tice. He was most punctual in his appointments, invariably arriving at a place of consultation some minutes before the time set. If the doctor who sought his advice was not there by the appointed time, Charcot did not wait for him but left. He was tirelessly energetic, infectiously enthusiastic, and perhaps not the least of his contributions to the development of medicine was the inspiration of others to follow in his foot steps.

His interest in disease did not extend to his own ailments. He suffered from anginal attacks for which his sole treatment was contempt. He became for some reason the butt of newspaper attacks which irritated him. He found peace of mind only when his mind was active about his work; and, for all his knowledge and wisdom, he long refused to take even a short holiday. Ultimately his wife persuaded him to spend a few weeks of change each summer and he would journey about the continent. It was on one of these occasions that he died from what we can recognize as coronary occlusion. He was buried from the chapel of the Salpetriere. He was 68 years old.

That was the end of his life but not the end of his influence. A great teacher is not unlike a piece of radium which, by its emanations, can spread its influence far beyond that of the parent substance. Charcot's energy, enthusiasm and industry inspired others who were, in turn sources of inspiration to a generation yet unborn; "wise were his words in his instruction and his name liveth for evermore"; but, I hope (for those who read this) not as a mere name only.



EDITORIAL

J. C. Hossack, M.D., C.M. (Man.), Editor

Lay Interest Needs Medical Direction

At the moment there is a movement on foot to establish a Canadian Foundation for Poliomyelitis. We are told, and can readily believe, that it is easy to raise money for polio. The present Canadian organization is sure that it can, without difficulty, reach an objective of \$3,500,000—A sum which, in the opinion of competent authorities, is far beyond the immediate need. The Saskatchewan Medical Association, after investigating this National Foundation as it now stands, refused its support and a committee of our own Association also felt that this project should not be endorsed.

Perhaps the lay persons who get such organizations going are motivated purely by altruism. But medical activities should not be directed by private laymen, or soap makers or tobacconists, however great may be the altruism of these. The money they can raise by the eloquence of radio announcers will be very welcome provided that it is turned over, not for spending in one or another of designated fields, but is given with no strings attached.

A glib radiator told his audience not long ago that one person out of every ten needed "mental help" and one out of every twenty would eventually get it in an institution; figures so alarming, that they brought forth a flood of contributions for the study of mental problems. Sensational journalists and script writers "go to town" on polio, heart disease and cancer. They ransack Roget for superlatives and do not hesitate to coin neologisms in order to provoke tears, fears and—contributions. Men, accustomed to extolling the merits of a soap or a sud or a smoke, follow the same exaggerated technique in "selling" consciousness of disease to the public. And how successful they are!

Literally millions of dollars now fill the coffers of investigators as a result of this enthusiastic propaganda; dollars, incidentally, that would have found their way elsewhere but for such propaganda. Had the appeals been for research of a general nature it is likely that they would have fallen on almost deaf ears. But the maimed and crippled child, the man held motionless in the vice of angina, the wife who broods despondent, the youth who sees more devils than vast hell can hold, the friend, who, even at the moment, thins and wastes as the cancerous mass grows and feeds upon him—these are human beings within the ken of many, if not of most, listeners.

Grateful as researchers must be for this wealth, it is possible that they might want to see a less lop-sided distribution. Certainly the profession as

a whole would welcome a broader and freer inquiry into the problems of disease. The tendency is for special appeals to be over-subscribed while other worthy causes languish for lack of funds. Well might these neglected investigators say with Pope "Bid me with Pollio sup."

It would be unkind to criticise too harshly those who have made available such large quantities of money. How much or, more properly, how little, of all this wealth would ever have reached the hands of investigators had it been solicited merely for medical research? But might it not be possible as it should be, for such monies to be gathered and given for the development of medical science as a whole so that more might be at the disposal of men whose problems, though less spectacular, are of no less ultimate importance? And, above all, should not the profession have the complete say as to what are to be the subjects of investigation and who are to be the objects of care?

Laymen, in such matters should be under our direction and no opportunity should be given to anyone to play the role of Gahazi to our Elisha. Pure altruism is a rare virtue, while the desire to make interest profitable is instinctive in some and not difficult to arouse in others. Let lay firms and individuals raise money for us but let the employment of that money be our concern alone, and, for them, let virtue be its own reward.

If, as Napoleon sneered, the British are a nation of shop-keepers, then the Americans are a nation of brotherhoods. This is not a jibe at our blood-cousins and excellent neighbours. It is not difficult to understand the aims, or to appreciate the usefulness, of the Elks, Moose, Lions, etc., but it is not easy to see a similar usefulness in all the various nosological groups. For some reason, not immediately apparent, the units of these latter bodies prefer to be called "chapters." Apart from its use as indicating the divisions of a book, the word "chapter" means the body of canons attached to a collegiate church or cathedral, or an assembly of members of a knightly or monastic order.

Inasmuch as the invalids who compose nosological "chapters" are not knights, monks, or canons, it is difficult to see why their groups should be so designated. But a much more important question is how much good is done by these "chapters?" God knows there is misery enough in this world and little enough of brotherly love shown to those who find it cruel. Anything, then, that will ameliorate the one and exemplify the other should have not only our kindly thoughts and our good wishes but also our support. It all depends upon how much good

is done and whether or not this good could be done better.

There was a Roman soldier who explained his inefficiency upon the field of battle by saying that his sword was too short; to which excuse his centurion answered, "Then go and add a pace to its length." Many whose swords have been shortened almost to the hilt have added so much more than a pace to their abbreviated weapons that they have won victories, glorious even for those who bore spears.

Great men whose names are well remembered and little men whom few could ever name and fewer still recall, furnish examples of how determination can succeed, and how encouragement can spur determination. Not mere paintings but works of art have come from those who, shorn of their arms, have learned to move their brushes with their toes or teeth. Prescott, whose eyes could serve him but for a single hour each day has left us well documented histories that have delighted readers for over a century and will continue to delight them for a thousand years should the world last so long. Robert Louis Stevenson, sprayed with his blood the paper whereon he wrote and, when the fit of coughing was severe, drowned out the work of hours.

Deaf Beethoven, blind Milton, puny, twisted, migrainous Pope, asthmatic Johnson—why extend the list? These are famous men but there is a host of others, famous and unfamed, some of whom, indeed, excelled their normal neighbours only after they themselves had become in some way handicapped.

In these examples of triumph over adversity, the victory was won by individual determination strengthened by the encouragement and support of a few devoted friends. Each felt that it was his own responsibility to make the best of what was left to him of faculties and time. The massing of invalids may be helpful for some but is unlikely to do much for those who lack that inner strength without which no outward bolstering can be of value. Even then there must be a reasonable probability that improvement can occur.

Thus it is questionable if arthritics are likely to derive much advantage by being banded in "chapters." They are not naturally disposed to optimism and the chronicity of their ailment enhances their gloomy attitude. On the other hand while optimism is a characteristic of the sufferers from disseminate sclerosis, the nature of their illness offers them little opportunity to see this optimism justified. In all afflictions a great deal depends on the personality of the invalid. The cheerfully disposed will suffer least and will strive most to rise above their limitations, while the gloomy will magnify their distresses and minimize their powers to lessen them.

But in some instances mutual association and help can achieve wonders. An excellent example of this is A.A., the members of which suffer from

but one handicap. The essence of its therapeutic value lies less in what each member gets than in what he gives of fellow feeling and personal help. It is the mass of help given and received that makes this association effective. The fact that all know at first hand what each must endure begets a completely understanding sympathy. Moreover the initiate sees about him those who have triumphed and is constantly reminded that he too can be victorious over his malady. Here association is almost a *sine qua non* for recovery.

Again, one can see much value in the congregation of deaf-mutes. Nowhere does Fate lay a heavier hand upon its victims than it does on those whom it robs of hearing and of speech. Vision, however acute, can never capture the singing of birds, the laughter of children, the word of affection. Only when these unfortunates are in the company of others similarly immured can imprisoning silence become tolerable. Then flashing fingers rouse them to noiseless mirth, excite their interest and impart instruction. Only in the misfortune of lost senses do they differ from their hearing and speaking fellows. Few are incapable of doing useful work. Many are capable of even great things. But their latent powers will never find expression in the hostile atmosphere of unsympathetic curiosity. For them, banding together is essential. Only by so doing can they hope to develop their talents and reveal their abilities. Only among themselves can they find that life, even for them, may be pleasurable. I can recall no campaign for the benefit of deaf mutes.

Seldom is poliomyelitis completely crippling. Most muscles are spared. Those that have been weakened may be strengthened. Lost functions can be replaced by the development of unaffected faculties. The untouched brain loses none of its ability to direct and devise. If there be a will to mend and capacity for adjustment or improvement, then determination will find ways of expression, and encouragement will foster accomplishment. Polio victims are usually attacked during those formative years when precept and practice most encourage them to do their best. The psychotherapy of emulation powerfully enhances the benefits of physiotherapy and of surgery. Self-consciousness can be largely eliminated by training in an environment where all suffer visible and functional handicaps. Useful skills and knowledge are then acquired normally. Associations and friendships formed in youth should be maintained, for these will not only be strengthened by time but will be a source of encouragement and inspiration to others.

One can see definite usefulness in groups composed of such cases, and of other cases of what may be called remediable crippling—crippling that is not beyond complete or partial recovery, or that is associated with faculties otherwise normal and therefore capable of normal development. And, if the receipt of the tonsure or of the accolade

be a ritual required for admission to a group of practical usefulness, there is no reason why these amusing preliminaries should be withheld, or why the resulting body should not be called a chapter. But the direction of the activities, therapeutic, occupational and social, of these groups should be under the control of doctors, assisted by trained persons. Lay bodies and individuals are desirable but only as auxiliaries. They should neither direct nor control.

There are several maladies which have so touched the public fancy that support for them is not difficult to get. But there are two groups to which insufficient attention has been called. One is the old people whose days are tedious; who have become, or think that they have become, useless and expendable. Consciously or unwittingly they are made to feel unwanted. They are lonely. As their age lengthens what is left to them of time becomes ever shorter and fulfillment of desire becomes increasingly unlikely until desire itself is lost. Left to themselves their minds tend to dwell in the past. Yet under the incentive of interest and encouragement, the present may be made bright and the future not without hope.

There was a time when life, for most, ended by 40. Now medical science has stretched the span until most can expect to reach the biblical three score years and ten. But of what use is life if it be merely a piling on of dreary and empty days? The capacities of the aging and aged have nowhere been the subject of much research or exploration. But such exploration is being rendered necessary by the ever increasing number of aged people. We do our old patients no favour if we merely keep them from dying. We should seek to find out their potentialities to enjoy pleasant and even profitable lives, and, having found these, seek further for ways to make overt what is latent. A greater interest is now being taken in geriatrics and the housing together of old people need no longer be a mild incarceration but rather a source of opportunities for those who have initiative, are capable of effort, and responsive to direction. As in the dawn of life so in its twilight, physical protection and psychological guidance can be applied with excellent profit.

The second group of unfortunates includes the most unfortunate of all. No one seeks to make glamorous their ailment. Alone among the ailing they can nowhere find pity. Their illness is branded as a crime. These are the psychologically shorn who seek to temper the wind of adversity by means so dangerous and harmful that relief serves only to provoke continued suffering.

We use the term "victim" loosely when we refer to the sick. We speak as if polio, cancer and so on were caused by tangible monsters. Drug addicts are victims, not only, metaphorically, of their habit, but also, literally, of callous men and

women whose lust for riches makes them crueler than any beast of prey. Addicts are not born but made, and many must be made to satisfy the greed of the traffickers. As the artificial appetite grows by what it feeds on, more and more money must be found to stay its cravings; and there is a limit to the amount that one can earn honestly.

Not all criminals are addicts nor are all addicts criminals, yet so compelling becomes the desire and so expensive is its satisfaction that many have been forced to give up all they had and to take what was not theirs, in order to assuage their suffering. And yet, so far as I am aware, there is no organized effort, lay or professional, to give them help. So long as we leave this medical problem to the police we are blameworthy.

Young men and women with sound bodies, and minds not beyond help, who have within many of them the potentialities of good citizens, are left neglected, spurned by all who know their failing, and of interest only to officers of the law. If our professional concern about them equalled that of the police, would we not find ways to stop this thing? And would not such efforts be worth while, considering how many hundreds of men and women, of youths and maidens, have set and are setting their feet upon this slippery and ever descending path? Addiction is not a crime but a disease and, being such, is a matter which is our responsibility, albeit lay assistance of various sorts is also necessary.

Lay interest in sickness is nothing new but lately it has taken new forms. Thus laymen with the support of no more than a limited part of the profession gather funds and organize invalids into groups. The raising of money is necessary but, when this is left to laymen, there is apt to be duplication in collection and unevenness in distribution. The uses to which such monies are put should be our concern alone, for we alone know how best to employ them for the symmetrical development of medical knowledge. It would seem wise to insist that appeals for funds for medical purposes be made, preferably only when suggested by, and certainly only when endorsed by, our organized associations. And for the control of appeals and funds an association committee might well be established.

Kindly lay people should be encouraged to help the ailing but only as serving brothers or serving sisters, not as officers in charge or directors of activities. Only those invalids who have inner resources are likely to be helped but when the will to mend is obviously present ways of mending should be found. Medical direction is necessary for interested lay people, otherwise they may waste time, energy and money when these could be used elsewhere with profit. Lay interest when it lacks professional control may be an embarrassing intrusion.

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ASSOCIATION PAGE

Reported by M. T. Macfarland, M.D.

Executive Committee, January 21st

24 Members Attended—Only One Absentee!

Highlights—Editor Hossack and Associate Peikoff also braved inclement weather to discuss Review.

Named General Practitioner Vice-President McKenty to C.M.A. Section Executive Meeting, February 26-28, Toronto.

Suggested study Ontario Medical Association Hospital By-laws and Department of Health and Public Welfare Model By-laws for Manitoba Hospitals.

Heard that reprints of "Sir Earle Page Plan" available for Public Relations Committee.

Learned that all nominees to M.M.S. Board had accepted.

Approved Executive Secretary representative to Provincial Civil Defence Committee.

Directed information re Emergency Medical Services be secured and studied by Officers.

Changed site of 1951 Annual Meeting to Fort Garry Hotel.

Listened to current controversy re "March of Dimes" Campaign, and sought more information.

Referred representation on Rehabilitation Committee, Health Division, Welfare Council of Greater Winnipeg, to the Winnipeg Medical Society representative.

Municipal physicians may avoid payment of income tax on reimbursement for expenses.

Resolved that the Fee Committee revise the M.M.A. Schedule of Minimum Fees.

Passed to Fee Committee a G.P. recommendation that M.M.S. fee changes be effected only once annually.

Negated a G.P. recommendation that honorarium be paid to medical members of M.M.S. Board of Trustees.

Directed M.M.A. Fee Committee submit fee changes to M.M.S. committee before ratification by M.M.A. Executive.

Was advised that the Annual Report of the Cancer Relief and Research Institute was ratified with lightning speed and little discussion.

Ratified recommendation of M.M.A.-M.M.S. Committee concerning specialist standing which would entitle holder to receive specialist remuneration from M.M.S.

Took no action to initiate a Committee on Professional Conduct or "Grievance Committee."

Received request from the Manitoba Branch, Canadian Society of Medical Technologists, for publicity and assistance in connection with the First National Convention of the federal body in June, 1951, Winnipeg.

Expressed gratitude to Editor Hossack for his achievements with the Review and requested detailed plans for improvement.

Heard that Dr. A. D. Kelly returned to Canada following Council and General Assembly, World Medical Association, New York, and attachment to British Medical Association, London, England.

Requested District Medical Societies and various Sections forward the names of members who might be attending C.M.A. that representatives to General Council might be named.

Suggested that the naming of Committees for the Annual Meeting be left in the hands of the president.

Agreed that acceptance of Municipal Contract by a group of doctors not unethical, provided another doctor did not wish the contract at regular rates.

January 23rd—Dr. Johannes Clemmesen spoke to a special meeting of Winnipeg Medical Society. His topic was "The Endemiology of Cancer."

January 24th—Greetings from the Association and from the Winnipeg Medical Society were extended to the Victorian Order of Nurses' Annual Meeting.

January 25th—Dr. J. A. Hannah, Associated Medical Services, Ontario, on western trip. Discussed prepaid medical care plans.

January 28th—Patient treated for malignancy for two years surprised to learn money paid to non-medical healer.

February 1st—Provincial Legislature session opened this p.m.

Executive Committee, February 18th

Heard action of Saskatchewan Division re "March of Dimes," letter from Dr. H. Bruce Chown and discussion, in person, by Dr. J. D. Adamson, along line presented to Winnipeg Medical Society on January 19th. Suggested await C.M.A. decision.

Named alternate members for sitting medical members on Medical Advisory Committee, Society for Crippled Children.

Was advised that meeting of the Fee Committee also the W.C.B. Negotiating Committee would be held on Friday, February 23rd.

Requested Dr. Elinor Black to inquire into the most suitable manner in which the Association might assist the Manitoba Branch, Canadian Society of Medical Technologists.

Received with approval mimeographed outline from the Chairman of Editorial Committee and Editor of recommendations for the Review.

Resolved that the Editor and Business Manager enforce the tenth of each month as "deadline" for accepting material for the subsequent Review.

Selected Dr. R. W. Richardson, representative to the C.M.A. Executive Committee, with Dr. D. L. Scott alternate, and the Divisional President, Dr. Eyjolfur Johnson, to the C.M.A. Nominating Committee.

Delegated authority to President to name representatives to C.M.A. General Council—a cross-section of the profession plus percentage of Executive members.

Perused Regulation 50/50, under Public Health Act, amending Regulation 91/45 which provides that an employer may deduct \$1.00 per month from wages of workmen for medical care, or \$1.50 monthly only after agreement of 2/3 of workers or their official bargaining agent.

Decided to circularize members who are coroners to determine if fees and regulations require revision.

Referred to the Advisory Commission under Health Services Act letter addressed by rural practitioner to G. P. Association concerning operation of Health Units.

Approved action of E.E.N.T. Section in referring request for independent negotiation of fees to the Association. Requested Committee on Economics to draft reply to the Union official concerned.

Was disturbed to learn of shortage of qualified anaesthetists and recalled negotiations during 1948 to have Anaesthetist work on Fee-for-Service basis

Invited Medical Director, M.M.S., to prepare article for the Review re the insurance coverage arranged for small companies through the Winnipeg Chamber of Commerce.

Replied to request from Ontario Division that no welfare scheme for medical, dental and other health services are provided in Manitoba for old age or blind pensioners.

Questioned whether proposed incorporation of a section of the Association membership is in the best interests of the whole profession.

Resolved that this Division should not participate in preparation and publication of a C.M.A. booklet on prepaid medical care plans.

Passed notice of the American Academy of General Practice, March 19th to 22nd, at San Francisco, to the G.P. Association.

February 20th—Manitoba Medical Service invited members to hear Mr. Arthur Clements, Michigan Medical and Hospital Service in the Colonial Room, Royal Alexandra Hotel—55 members attended.

Brandon and District Medical Association

The winter meeting of the Brandon and District Medical Association was held at the Hospital

for Mental Diseases, Brandon, during the afternoon and evening of Wednesday, February 21st.

The afternoon session was a curling match which attracted several participants. A mixed foursome consisting of Dr. and Mrs. J. E. Hudson of Hamiota, and Dr. and Mrs. W. K. Hames of Kenton romped home with the honors.

Approximately seventy persons sat down to dinner which was served in the dining-room of the Nurses' Residence. Dr. and Mrs. S. Schultz were unavoidably absent, but greetings were extended by Dr. M. E. Bristow. Acknowledgment was also made to Miss J. Ryfa and Miss Mackenzie. The dinner was fine, and good entertainment was provided by a quartet which also led the community singing.

The ladies who had been entertained in the afternoon at tea enjoyed a session of Canasta, Bridge or chit-chat, while the business and scientific session was in progress.

Present were Doctors J. A. Findlay, President; F. J. E. Purdie, Secretary-Treasurer; K. Anstreicher, J. B. Baker, M. E. Bristow, J. B. Chetwynd, R. P. Cromarty, Michael Duggan, Kathleen A. Elliott, H. S. Evans, F. Fjeldsted, J. G. Fyfe, D. L. Johnson, G. Lambertsen, J. M. Matheson, R. O. McDiarmid, J. E. C. Morton, R. F. M. Myers, S. J. S. Peirce, W. S. Peters, A. H. Povah, P. C. Robertson, V. J. H. Sharpe, E. J. Skafel, E. D. Winchell, W. Czubyat and R. Champagne of Brandon, W. J. Sharman of Belmont, G. T. McNeill and W. H. Patterson of Carberry, F. K. Purdie of Griswold, J. E. Hudson of Hamiota, W. K. Hames of Kenton, E. H. Dobbs of Ninette, Leon Rubin of Rivers, Eyjolfur Johnson of Selkirk, V. H. Radoux of Shilo, D. J. Fraser, E. W. Pickard and M. T. Macfarland of Winnipeg.

The President of the Association, paying his first visit to the District, brought greetings from the provincial body.

In the brief business session, following the reading of the minutes of the last meeting, Dr. R. F. M. Myers was named to represent the Brandon and District Association to the Nominating Committee of the Manitoba Medical Association. In response to a letter from the M.M.A. inquiring if any members would be attending the C.M.A. meeting at Montreal in June, no hands were raised. The Executive Secretary of the Association outlined some of the promotional plans which the Manitoba Medical Service has for Brandon and District in the near future.

Scientific papers were given by Dr. A. B. Houston on "Management of Cardiac Arrhythmias" and by Dr. E. W. Pickard on "Congenital Defects."

Dr. and Mrs. Findlay invited the guests to their home for refreshments.

North of 53 District Medical Society

By a strange coincidence, which had all the appearance of expert planning, the meeting of the North of 53 District Medical Society was convened at The Pas (Friday, February 16th) the same day as the finish of the Dog Derby during the Trappers' Festival. Members converged by car, train, and plane several hours before the time of the meeting, and many were on hand to see the treaty Indian from Brochet romp in to claim the \$1,000.00 prize money. The weatherman wooed for some time previously, had provided mild, sunny weather.

At the meeting which was held in St. Anthony's Hospital, where a welcome was extended by the Sister Superior and her staff, the Chairman was Dr. C. S. Crawford.

Present were: Doctors A. E. McGregor, President, Sherridon; C. S. Crawford, A. L. Jacobs, M. K. Brandt, J. Leicester, R. F. Yule, W. Zajcew, The Pas; P. Johnson and N. Stephansson, Flin Flon; A. A. Yauniskis, Snow Lake; A. S. Little, (President, Northern District Medical Society), Dauphin; M. T. Macfarland, C. B. Schoemperlen, Paul K. Tisdale, W. J. Wood (D.I.A.), Winnipeg. Regrets were received from Dr. Eyjolfur Johnson, President of the Manitoba Medical Association.

The scientific session consisted of papers by Dr. C. B. Schoemperlen of Winnipeg—"Treatment of Anaemias," Dr. Paul K. Tisdale of Winnipeg on "Observations on the Use of Banthine."

Dr. Wasyl Zajcew, an employee at the Clearwater Sanatorium, outlined the organization of Evacuation Hospitals in Germany during World War II.

In the brief business session, the following officers were elected:

President, Dr. P. Johnson, Flin Flon.

Vice-President, Dr. J. Leicester, The Pas.

Secretary-Treas., Dr. Glen Willson, Flin Flon.

Representative to the Manitoba Medical Association, Dr. C. S. Crawford, The Pas.

Nominating Committee, M.M.A., Dr. C. S. Crawford, The Pas.

A lively discussion ensued concerning Manitoba Medical Service and its relationship to other plans for prepaid medical care which are available to the profession. Cases were cited in which patients, covered by both Manitoba Medical Service and Manitoba Hospital Service Association policies, were unable to have straight diagnostic procedures paid for by either insurer, since the diagnostic facilities are available in what corresponds to the Outpatient Department of the city hospitals. It was explained that these matters may be satisfactorily adjusted when the Manitoba Medical Service representatives travel to The Pas and Flin Flon.

M. T. Macfarland.

ARTICLE

Uncultured Medics*

Dear Mr. Editor of the Medical Issue of the Manitoban:

Medical students are awful uncultured. They are stupid and do not read or know anything about this here world of ours whatsoever outside of what they read in text books and all that. And neither can they express themselves good or even pronounce the language right, and they use bad grammar and they are going to turn out to be just a lot of teck—tet—carpenters if somebody doesn't hurry up and give them some philosophy and psychology and other things and idealism and culture which is very important to make us good citizens and that. They got to have a adiquite education.

Like the other day I seen a medical student at a party and that is mostly why I am writing this here letter because this here guy was a first class, A no. 1 prime example of what I was talking about before (you know, about medical students being uncultured, up near the beginning of this here letter). I seen this fellow and right off I says to him, "You are a medical student aren't you?" He says, "Yes, I am." I says, do you ever read Shakespeare? He says no, but he hears they are making a picture out of it anyway, so it was a waste of time to read the book. Well I never heard anything so ignorant, and I told him right then it wasn't a book it was a play. And besides, I says you know darn well than Bacon wouldn't sell the rights to that thing anyway (That stopped him, me just casually mentioning the author). And so I went on, I says, have you ever read Milton? He says, Milton who? Well if that isn't ignorance. Milton who. Whoever uses Milton's second name? I says ever read the Golden Hawk. He says what? I says the Golden Hawk. by Frank Yerby. He says oh, no. So I says not even pages 63 to 97? No again. So I told him what them pages were about. he was interested but he says he was a busy man and didn't have time for prelims. I says only 63 and 65 are prelims, and the rest he says? (eager like) Main event I says (casual). Now I never seen a man get culture hungry so quick. Why, when he left he promised me he'd read that book and stop being so course and stupid.

And so Mr. Editor if all of us fellows which are in courses which offer a education would help some of these ignorant medical students out the way I helped this here fellow while the whole situation would be all fixed up.

Yours,

D. Corticate, Arts 5 (H).

*Reprinted from the "Medical Issue" of the Manitoban.



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**DESIGNED SPECIFICALLY FOR ANTEPARTUM
AND POSTPARTUM NIPPLE CARE**

Massé is an antiseptic, readily absorbed, nipple cream containing 9-amino acridine 1:1000, and allantoin 2%. Massé is active against a wide variety of bacteria, stimulates healing of nipple abrasions and fissures, and has excellent emollient properties.

INDICATIONS: For prophylactic nipple care during the antepartum and nursing periods, and for the treatment of cracked nipples.



Advantages of Massé in prophylactic nipple care:

1. Highly effective against a wide variety of pathogenic bacteria.
2. Relatively nontoxic and nonirritating.
3. Actively promotes healing.
4. Has definite debriding properties.
5. Readily absorbed, obviating the use of waxed paper, etc., over nipples after application.
6. Nonstaining.
7. Emollient effect helps prevent nipple trauma.
8. Need not be washed off prior to nursing.
9. Has pH of 5.6 approximating that of nipple epithelium.



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Winnipeg Medical Society

Report of the Nominating Committee

President:

Doctors Gilbert L. Adamson, Sam A. Boyd.

Vice-President:

Doctors A. E. Childe, F. Hartley Smith.

Secretary:

Doctors Marjorie R. Bennett, M. M. Brown.

Treasurer:

Doctors K. Borthwick-Leslie, Emmet Dwyer.

Trustee:

Doctors J. W. R. Rennie, David Swartz.

Meeting, February 16th, 1951

The February meeting of the Society was held at the Children's Hospital and took the form of graphic displays presented by members of the staff. There was a large, appreciative attendance of members of the Society.

Dr. Kenneth Martin and Dr. C. W. Clark presented with excellent color drawings, pathological specimens, wax models and X-rays congenital anomalies of the G.I. tract. These included the recto-sigmoid (pull-through) type of operation of Hirschsprung's disease, pyloric stenosis, diaphragmatic hernia, Meckel's diverticulum, intussusception and treatment of imperforate anus. Dr. Harry Medovy presented "common accidents in the home" and the difficult problem of helping diabetic children lead a happy normal life. To add life to his display there was present a happy normal-appearing diabetic child rather hungrily eyeing a tasty meal set out in the display.

Dr. Bill Bowman presented the current method of treating electrolyte imbalance with molar lactate and potassium solution, and the attending radiologists demonstrated by means of X-rays the pulmonary changes produced by the aspiration of a peanut. In addition to the purely mechanical possibilities of obstruction it was pointed out the marked toxic effects frequently produced, often simulating pneumonia.

Dr. Robert MacNeil presented pathological specimens and diagrams of congenital heart disease; Mr. Frank Silversides, a display of recent and revised additions to the pharmacological formularies; and Dr. N. P. Merkeley pointed out the futility of applying trusses to inguinal hernia in children and the advantage of repairing both sides at time of operation.

Dr. Sidney Israels presented an exhibit on convulsions in children and their management, and Dr. Sam Boyd presented the management of premature infants. Dr. E. S. James showed with X-rays the necessity of examining the elbow joint

and wrist joint respectively in separate fractures of the ulna or radius in children.

A large display of the common allergens in children, preparation of elimination diets with sample menus, and other forms of treatment was shown by Dr. C. H. A. Walton. Dr. Beckman had many doctors counting colored lights as he demonstrated a simple method of testing strabismus in children with the use of glasses prepared with one red and one green lens, and accented his display with excellent series of photographs of children before and after treatment. He pointed out the advantages to the child to have strabismus treated as soon after the age of two as possible.

Drs. Arthur Birt and Kenneth Davidson demonstrated why Life magazine is not afforded the opportunity to picture epidemics of ringworm in Winnipeg as there is great co-operation with the school and public health officials and their department in the control of this disease by examining all suspected cases promptly with Wood's light, which demonstrates vividly in fluorescent green the affected scalp.

Letter to the President

The following letter, addressed to the President of the Society, is of interest to all members:

Dear Doctor Trueman:

With further reference to the Winnipeg Medical Society's part in the 1950 Community Chest Campaign:

You will recall that our 1949 quota was \$9,543.00 and that the amount actually collected was \$9,667.00. Our 1950 quota was \$12,510.00—an increase of about 24% over the previous year. Our collections to date stand at \$10,811.50.

Actually, the quota appears to be arrived at by the Chest authorities attempting to estimate a contribution which should be given by the doctors plus the clerical and nursing staffs working for them. As you know, we did not attempt any organized collection from these other persons and, although the amount credited to us by the Chest includes donations from some of this personnel, it undoubtedly fails to take into account many individual contributions from this source, as there would be no means of knowing that they were doctors' nurses, stenographers or technicians, etc. A case in point is my own office where contributions from the non-medical members of the staff amounted to \$68.00 and which sum could not have been recognized by the Chest authorities as assignable to the medical profession's quota.

However, it is at least gratifying to know that our collections were \$1,144.50 or 11% greater than in 1949.

Yours very truly,

Emmet Dwyer, M.D., Chairman,
Community Chest Campaign Committee,
Winnipeg Medical Society



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Fl. Ext. Valerian (A&H odorless) Min. 30
Phenobarbitone Grs. 2

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Each fluid ounce contains

Fl. Ext. Valerian (A&H odorless) Min. 30
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Stilboestrol Mgm. 1

Euvalerol Elixir C

Each fluid ounce contains

Fl. Ext. Valerian (A&H odorless) Min. 30
Spt. Ammonia Aromat..... Min. 10
Ammon. Bromide Grs. 30
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Euvalerol Elixirs are prepared from fresh valerian root by a special process which, while ensuring the retention of the active principles contained in the volatile oil of valerian, eliminates the unpleasant odor. Valerian has been found successful in minor neurosis and has not the deleterious properties of habit forming narcotics.

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General Practitioners

General Practitioners' Association of Manitoba
In Affiliation with the Manitoba Medical Association

Executive Meeting

An executive meeting was held on February 13, 1951, at 901 Boyd Building, with Dr. M. M. Brown in the chair. The Minutes of the last meeting were read and adopted.

Manitoba Medical Service

Arising out of the Minutes, the problem of new contracts for the Manitoba Medical Service which became effective January 1, 1951, was ably discussed by Dr. A. T. Gowron who was instructed by the President to study the matter further and submit a report at the next executive meeting.

The question of third-party liability was considered and Dr. Gowron explained that the Manitoba Medical Service was responsible for the medical fees regardless of what other coverage the patient had. He explained that, if a person was insured with a company and had an appendix operation, all the medical expenses would be paid through the Manitoba Medical Service but the person could demand from the insurance company the full fee for such an operation and could pocket the cheque.

Membership

It was decided to request a list of the doctors as given under the heading of General Practitioners in the Manitoba Medical Service file system, the purpose being to canvass these to join the General Practitioners' Association.

Correspondence

A letter from Dr. Maurice J. DeKoven of Sydney, N.S., was placed on file. A letter from Dr. J. W. Cairns of Pipestone, Man., was discussed and a copy sent to the Executive of the Manitoba Medical Association for their study and action.

General Meeting

It was decided to hold a general meeting on February 21, 1951, the Honorable Ivan Schultz having expressed his willingness to be the guest speaker on this occasion.

General Meeting Report

This was held at the Medical College, February 21, 1951. Dr. M. M. Brown was in the chair. About 75 members and invited guests were present. Dr. A. A. Keenberg introduced the guest speaker, the Honorable Ivan Schultz, whose talk was entitled "Health Care in the World Today." He began by discussing conditions in the field of health on the international level devoting some time to the concept of the welfare state. On the provincial level he indicated that it was not the intention of the government to institute state medicine unless forced to it by public demand. In order to illus-

trate the vast cost of health services, he stated that in Manitoba in 1936, when he first took a cabinet post, the total budget for the province was seven million dollars, whereas today he tabled his budget of nine million dollars for his department alone for the ensuing year. He cited Russia as the best example of the state control of medicine, their boast being "full responsibility from conception to death." No chiropractors, osteopaths or naturopaths are permitted to practise in Russia and the minister suggested that the medical men would be in hearty agreement with this. He continued that it was very difficult to get information from Russia but to the best of his knowledge doctors are paid about \$200 per month. About half of the doctors are women. The mortality rates are 30% higher and the life expectancy about 13 years less than in Canada.

The Minister discussed the hospital situation in Manitoba, indicating that some changes would have to be made, particularly with a view to making the present health units serve a larger population. The local doctor would be asked to assist in a greater measure than hitherto.

In answer to the question of whether he thought that state medicine would come to Canada, he stated that he did not believe so but that instead some form of prepaid medical insurance would be instituted. In fact, he said the Manitoba doctors have started it themselves. He added that prepaid medical care was sound, that government control was expensive and difficult to keep costs within reason. The weakness of the voluntary plans was that all the people were not covered.

In regard to the question of what the government intended to do about chronic alcoholics, he replied that no money had been set aside to deal with this problem, despite the seven million dollar liquor revenue.


One of the doctors present thanked the minister for his address and stated that he had much confidence in the co-operation to be expected from the Department in the future, at the same time pointing out that we, the medical profession, were the first to introduce prepaid Medical Service; that we are looking after the indigents now as we have done in the past and that, if people demand more health services, they should be told what the costs would be and should be taxed accordingly; this might in some way limit their insatiable desire for the so-called "free" services.

Dr. Walter Tisdale then offered the official vote of thanks after which refreshments were served in the canteen.

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College of Physicians and Surgeons of Manitoba

Executive Committee

January 31st, 1951

A meeting of the Executive Committee was held in the Winnipeg Clinic, Winnipeg, Wednesday, January 31st, 1951, at 8 o'clock p.m.

Present: Dr. C. B. Stewart, Chairman; Dr. B. D. Best, Dr. Edward Johnson, Dr. I. Pearlman, President, ex-officio, and Dr. M. T. Macfarland, Registrar.

1. Business Arising From Annual Council Meeting—October 18, 1950

A. Newspaper Items Re Registrar's Report

The Registrar presented the various newspaper items concerning his report to Council on October 18th, 1950, and his statement to the Winnipeg Medical Society on December 15th, 1950, copies of which were forwarded to each of the newspapers.

B. Unlicensed Physicians in Manitoba

(a) Members of His Majesty's Forces and Dominion Government Employees

The Registrar advised he had forwarded to the solicitor, Mr. T. W. Laidlaw, a copy of the Notice of Motion which was presented at the Council Meeting on October 18th, 1950, concerning temporary licensing of members of His Majesty's Forces and Dominion Government Employees stationed in Manitoba, on payment of the annual fee, provided they are registered and in good standing in one other province. He said he had received no reply as yet, and the Committee requested that they have an opportunity to study the wording of the suggested by-law before the May Council meeting.

(b) Graduate Internes

The Registrar reported that he had not communicated with each hospital employing graduate internes as suggested by Council, but had written to the Associated Hospitals of Manitoba outlining the policy of the Council with regard to the temporary licensing of graduate internes. A reply was received, advising that a subcommittee had been appointed to make a complete study of the problem and bring in their findings at the next meeting of the Board of Associated Hospitals of Manitoba. The Registrar reported that Dr. W. R. Dunlop, who had been appointed chairman of this committee, contacted him and suggested that the classification "interne" should not include hospitals other than teaching. The interne's argument is that he is not practising medicine, but is still a student doing postgraduate training extending his education. It was pointed out that the Provincial Government institutions were employing un-

registered physicians who are not eligible for registration. Dr. Johnson explained that such employees were taken on a temporary basis for a period of three years. If, at the end of that time, he has not qualified for registration, he must leave the Civil Service.

The Executive Committee decided to leave the matter in the hands of the special committee of the Associated Hospitals of Manitoba, and agreed that the Registrar should attend the meetings.

(c) Locum Tenens

The Registrar advised he had forwarded to the solicitor, Mr. T. W. Laidlaw, a copy of the Notice of Motion which was presented at the Council Meeting on October 18th, 1950, concerning temporary licensing of locum tenens. No reply had been received as yet. It was suggested that the licence should be valid for a longer period than three months since a graduate may spend a year doing locum tenens for several physicians, he may be doing a locum tenens in place of an internship year, or just putting in time.

It was recommended to Council that the Certificate of Licence issued to qualified physicians who are undertaking Locum Tenens for other physicians be valid for a period of twelve months rather than three.

C. Legislative Committee

The questions of Specialist Register and Electoral Districts had been referred to the Legislative Committee. The Registrar reported that the Chairman was absent from the city, but had received word that he would call a meeting prior to the Council Meeting in May.

D. Grant to Medical Library Committee

A communication was read from the Chairman, Medical Library Committee, acknowledging with thanks receipt of cheque in the amount of Seven Hundred and Fifty Dollars (\$750.00), and advising that the grant would be of greatest assistance in the maintenance of the Library at the highest possible standard.

E. Discipline Committee

(a) Disciplinary By-law

The Registrar presented the following Discipline By-law as revised by the solicitor, Mr. T. W. Laidlaw, and stated that the Executive Committee was given authority by Council at the meeting on October 18th, 1950, to give final approval before inclusion in the By-laws:

"By-law No. being a By-law respecting discipline.

WHEREAS the Medical Act, Cap. 130, R.S.M., 1940, provides for the forfeiture of the right to registration and the erasure from the Register of

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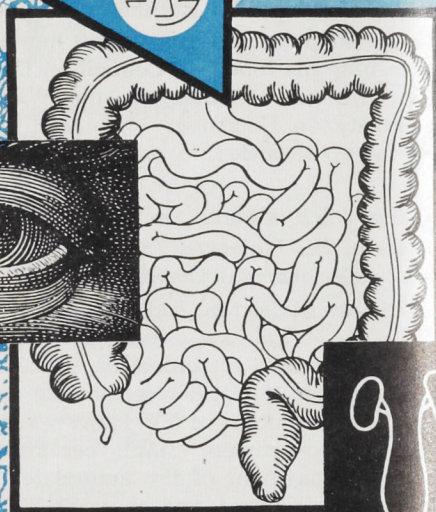
TRI-COMBISUL
triple Sulfonamides
tablets and liquid

SULAMYD
sulfacetimide
for urinary tract infections

THALAMYD
phthalylsulfacetimide
nonabsorbable sulfonamide

PENICOMBISUL
Triple sulfonamides
with penicillin

SODIUM SULFACETIMIDE
(Sodium Sulamyd)
ophthalmic solution 30%
ophthalmic ointment 10%
nasal solution 10%

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the name of any registered medical practitioner for the reasons set forth in Sections 43 to 45 inclusive.

AND WHEREAS it is deemed desirable to provide for inquiry into complaints respecting the professional conduct of a registered medical practitioner and to provide penalties to be imposed in any case where such registered medical practitioner is found guilty of professional misconduct not being so gross as to disqualify from practising medicine and surgery.

AND WHEREAS the Council is empowered to pass by-laws and regulations not inconsistent with the said Act or the law or the internal management of the College.

THEREFORE BE IT ENACTED by the Council of the College of Physicians and Surgeons of Manitoba and it is hereby enacted as a By-law of the said College as follows:

1. The Council may, of its own motion or upon the written complaint of any person, cause inquiry to be made into the subject matter of such complaint for the purpose of determining whether or not the registered medical practitioner complained against has been guilty of infamous or unprofessional conduct, or of professional incompetence, negligence or misconduct which, in the opinion of the Council, if proven, would not justify the erasure of the name of such practitioner from the Register.

2. The provisions of Sections 49 to 55, both inclusive, of the said The Medical Act shall be applicable to proceedings taken under this By-law.

3. The Council may in its discretion dismiss the charge or, if the registered medical practitioner whose conduct has been inquired into is found guilty thereof or of any lesser offence and the Council does not feel that his conduct merits erasure of his name from the Register, pass a resolution in one of the forms following or in such other form as the nature of the case requires.

1. That, in the opinion of the Council, the complaint has not been established.

2. That, in the opinion of the Council, there has been no violation of the generally accepted principles of the professional conduct and that no action be taken.

3. That, in the opinion of the Council, the complaint is frivolous, and that the case be dismissed.

4. That, in the opinion of the Council _____ has committed an indiscretion and error in judgment but that his conduct does not call for censure.

5. That, in the opinion of the Council _____ has violated the generally accepted rules of professional conduct, but that in consideration of the circumstances and in particular the apparent faults of other parties concerned, the case be dismissed.

6. That, in the opinion of the Council _____ has violated the generally accepted rules of pro-

fessional conduct and that his conduct has been inimical to the best interests of the public and of the profession and that he be and hereby is censured.

7. That, in the opinion of the Council, the conduct of _____ has been or is, with respect to _____, inimical to the best interests of the public and of the profession, and

(a) that he be informed of the finding of the Council and allowed until _____ to reconsider his position;

(b) That the registrar be instructed to report in due course upon his reply, if any;

(c) and that if, upon such further report, the Council shall consider his reply unsatisfactory, or if no reply be received within the time specified, appropriate action may be taken forthwith.

8. That, in the opinion of the Council, the conduct of _____ has been or is such that he is judged guilty of unbecoming or improper conduct, professional or otherwise; that appropriate action may be taken.

4. For the purposes of this By-law the Council may impose any of the following penalties:

1. Censure;

2. Censure and the payment of the costs of the investigation;

3. Censure, fine (not to exceed \$ _____) and the costs of the investigation;

4. Suspension from the College of Physicians and Surgeons for any period not exceeding three years;

5. Fine (not to exceed \$ _____) and suspension from the College of Physicians and Surgeons for any period not to exceed three years, with or without the payment of the costs of the investigation;

6. Erasure of name from membership in the College of Physicians and Surgeons.

DONE and PASSED at a meeting of the Council of the College of Physicians and Surgeons of Manitoba held this _____ day of _____ A.D. 1950."

The Executive Committee considered a maximum fine should be set in paragraph 4 numbers 3 and 5, and that it would require the action of Council.

Motion: "THAT the Executive Committee approves of the Discipline By-law, and recommends that the maximum fine under paragraph 4 number 3 be Fifty Dollars (\$50.00), and the maximum fine under paragraph 4, number 5, be one hundred dollars (\$100.00)." Carried.

(b) Dr. _____

The Registrar presented communication from the Commissioner, Workmen's Compensation Board, advising that the Board greatly appreciates the efforts made by the College of Physicians and Surgeons of Manitoba in attempting to get better co-operation from Dr. _____, and that

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the Board is considering what action may be taken in respect of the matter.

F. Grant for Extra Mural Postgraduate Work

The Registrar presented a letter from the Manitoba Medical Association, thanking the College for the continuance of this grant, and acquainting the College with a resolution from the various District Medical Societies, in which appreciation is expressed to the members of the Extra Mural Committee who arrange for the speakers at meetings and to the speakers who attend.

G. Grant Re Fee Assessment Committee, Workmen's Compensation Board

The Registrar presented a letter from the Manitoba Medical Association expressing appreciation of the grant for the payment of the members of the Fee Taxing Committee W.C.B. for the 1950-51 season.

H. Gordon Bell Memorial

(a) Approval by Trustees of Action of Finance Committee

The Registrar reported that word had been received from each of the Trustees concurring with the action of the Finance Committee that fully registered Dominion of Canada 3% bonds to a total of \$500.00 be purchased as surplus funds in the Gordon Bell Memorial bank balance are deemed sufficient.

(b) Grant to Dr. A. E. Thomson

The Registrar reported that a bank draft in Pounds Sterling equivalent to One Thousand Dollars Canadian funds had been forwarded to Dr. Thomson, and that acknowledgment had been received.

I. Committee of Fifteen

The Registrar explained that this had to do with the opening of the Workmen's Compensation Board Act. An invitation was received on short notice from the Deputy Minister of Labour by the M.M.A., to present a brief. The Committee of Fifteen met and decided a brief should be presented and a subcommittee was named. Numerous meetings were held, and the solicitor, Mr. T. W. Laidlaw, prepared a brief which was not ready in time for the public presentation on November 1, 1950, but went to the Deputy Minister of Labour.

It was suggested that since the Committee of Fifteen was originated by the College, and that changes in the Acts should be the concern mainly of the College, that Mr. Laidlaw's bill should be paid by the C.P. & S.

Motion: "THAT the College of Physicians and Surgeons accepts for payment the bill of One Hundred Dollars (\$100.00) for Mr. T. W. Laidlaw's services to-date, in preparing the brief for submission to the Committee of the Department of Labour respecting amendments to the Workmen's Compensation Act." Carried.

J. Representative to University Senate

Since Dr. C. H. A. Walton was unavoidably absent from the meeting, no report was available.

K. Representative to Cancer Institute

The Registrar presented copy of letter sent out from the Association office, and book of special forms to be used in referring cancer suspects from rural Manitoba to the new Cancer Diagnostic Services in the General and St. Boniface Hospitals, sent out from the Cancer Institute office to all doctors in the Province.

L. Liaison Committee—M.M.A.-C.P. & S.

A progress report was given concerning the meetings of the Liaison Committee—M.M.A.-C.P. & S., and further information will be forthcoming at the next meeting of the Executive Committee.

M. Representatives to Medical Council of Canada

The Registrar explained that Dr. B. D. Best's resignation as representative of the Council of the C.P. & S. of Manitoba to the Medical Council of Canada had been accepted, and that Dr. C. E. Corrigan's appointment to complete the unexpired term, had been accepted.

N. Dr. . . .

A communication was presented from the _____ hospital advising that Dr. _____ had been readmitted from the _____ hospital on Nov. 17, 1950.

O. Canadian Red Cross Blood Transfusion Service

A further letter was presented from the Canadian Red Cross Blood Transfusion Service, inquiring whether the motion of the Council in October could be interpreted that this College would be agreeable that the nurses do bleeding if there is a local doctor on call, who would be available should any untoward incident occur.

The Executive Committee were of the opinion that a doctor should be available at short notice, preferably on the premises.

P. By-laws, Rules and Regulations

The Committee were of the opinion that the printing of the By-laws, Rules and Regulations should be postponed until after the May meeting of Council, since the Discipline By-law, temporary licensing for Locum Tenens, and temporary licensing for members of His Majesty's Forces and Dominion Government employees stationed in Manitoba, would be included at that time.

2. New Business

A. Increasing Numbers of Letters From European Applicants

The Registrar presented letters of inquiry from European graduates seeking information about the practise of medicine in this Province, which had been received since the middle of December.

Dr. Stewart gave a brief outline of a talk by Dr. R. R. Struthers of the Rockefeller Foundation, on the conditions of medical practice in Europe. He said that the surplus of doctors was tremendous, that the universities were graduating them rapidly, and that most doctors were forced to do other work in order to make a living.

B. Dr. . . .

The Registrar explained that Dr. _____ had been issued with an Enabling Certificate in 1942, but after failing the examinations of the Medical Council of Canada on three occasions, and word having been received that he was having difficulties with the Immigration Department, his Enabling Certificate was cancelled in 1945. He has now requested information concerning the provincial examinations, and regulations concerning the requirements for an Enabling Certificate have been forwarded. He states he was issued with an Enabling Certificate in 1942 by complying with our regulations at that time, and it did not

have any expiry date. Information has also been received that Dr. _____ has not yet been given legal permanent immigration status in Canada, and that the Department of Immigration has no information that he has become naturalized in Canada.

The Executive Committee directed that Dr. _____ should be advised that his Enabling Certificate was cancelled, and that before further application is considered, he will have to submit the required documents, including Basic Sciences Certificate of Credit, as well as his legal status in Canada.

3. Unfinished Business

A. Canadian Medical Protective Association

The Registrar explained that at the Council Meeting held May 23rd, 1950, it was suggested that a member of the Discipline Committee, C.P. & S., should be a provincial representative to the C.M.P.A., and pointed out that Dr. C. E. Corrigan, a member of our Discipline Committee, was also a provincial representative to the C.M.P.A.

OBITUARIES

Dr. Harry Martindale Speechly

We are all left poorer by the death of Dr. Speechly. The November number of last year was dedicated to him as a birthday present and in it were papers written by himself. Last month, in a form that he enjoyed, we wrote of his anti-mosquito campaign—one of his many contributions to the pleasure, safety and comfort of his fellow citizens.

He was a very kindly gentleman, a product of the reign of Queen Victoria but free from Victorian prejudices. He was a distinguished student for he was a fellow-prizeman with three others who reached eminence—Sequeira, once the leading British dermatologist, Dawson of Penn who became physician to his late Majesty and Grenfell of Labrador whose name is a household word.

He had much in common with Grenfell for, though in different ways, both were missionaries. Both moreover, enjoyed that enduring faith which gives to those who have it the superlative blessing of peace of mind. Speechly's good humour, tolerance, gentle courtesy and kindness were due in no small measure to his deep religious feelings which, nurtured in precept, revealed themselves in daily practice.

Even in his avocations he had the welfare of others in mind. He rid the City of its mosquito pest. He was active in devising means for protecting people from traffic hazards. The Museum, as it now is, was almost his creation and from it many have derived pleasure and profit. Above all he was completely approachable and anyone

who wished them could have his ear and his counsel.

In many ways he was honoured by his profession but he himself brought honour to his calling by his conduct and example.

Bereavement is a burden which we cannot lift from the bereaved however much we may share it or however deep may be our sympathy; yet for the widow and her children the sting of death must surely be somewhat blunted by the knowledge that he whom they loved was honoured, respected and admired by all who knew him throughout the whole of his long life. His good deeds will be remembered and his name will not be forgotten.

J. C. H.

Dr. Arnot G. V. Leishman

Dr. Arnot G. V. Leishman died on February 5 at the age of 73. Born in South Gore, Ont., he came to Manitoba in 1900 and graduated from Manitoba Medical College in 1905. He practised at Shoal Lake for several years until after post-graduate work he settled in Winnipeg. From 1923 until 1939 he was Associate Professor of Otolaryngology in the University of Manitoba. He was a Fellow of the American College of Surgeons and of the Royal College of Surgeons (Canada). He was Past Master of Shoal Lake Lodge A.F. & A.M., and a member of the Board of Managers of Westminster Church, Winnipeg. He is survived by a daughter, Nursing Sister (Matron) Edna Leishman, stationed at Fort Osborne Barracks, and a son, Dr. John D. Leishman, of Regina, Sask.

SOCIAL NEWS

Reported by K. Borthwick-Leslie, M.D.

On behalf of the profession and myself I wish to extend our sincere sympathy to Mrs. Speechly, family and multitudinous friends, on the sudden loss of that beloved "perfect gentleman" Dr. H. M. Speechly. Dr. Speechly was born in Cochin, South India, Nov. 1st, 1866. He graduated in Medicine, L.R.C.P. and M.R.C.S., London, England, in 1889, and practised in England until 1901 when, fortunately for Manitoba, he decided to settle here, becoming one of our most prominent, best beloved members.

Congratulations to Dr. F. A. Benner on the honor bestowed on him of becoming President of the United Empire Loyalist Association of Canada, Winnipeg Branch, succeeding Major W. H. Hunt.

Lady Wakehurst, wife of the Rt. Hon. Lord Wakehurst, Lord Prior of the Order of St. John of Jerusalem, while in Winnipeg, at St. John House unveiled a plaque in honor of Dr. M. Ellen Douglass. Quote "It is a pleasure and an honor to unveil this plaque in memory of someone who was so distinguished in her profession and so loved by such a host of friends." May we concur.

Dr. J. K. Martin is enjoying a three-week tour of cerebral palsy treatment centres in Toronto, Montreal, Boston, New York, Baltimore, Columbus and Chicago. Dr. Martin represents the Society of Crippled Children of Manitoba.

An interesting note from Dr. Robert L. Cooke from the Memorial Centre Hospital, New York, where Bob is a Fellow in Surgery, at that time on the service of Dr. Alexander Brunschweg. Mrs. Cooke, nee Ruth Graham, M.D., and baby daughter, are enjoying New York with papa. Dr. Cooke remarks that the volume of work is fantastic and stimulating, but is kind enough to appreciate our Bulletin. Thanks, Bob.

Does one congratulate Dr. P. H. McNulty on being appointed chairman of the Manitoba Medical Service or just say "Poor Pat, Heaven Help Him!" Staunch helpers aren't bad though, Bruce Sutherland, Vice-Chairman; Dr. C. E. Corrigan, Treasurer; Dr. V. F. Bachynski, Secretary; Dr. J. C. MacMaster, Executive Director; Board members, Drs. F. G. Allison, A. R. Birt, C. K. Bleeks, W. J. Boyd, F. Fjelsted, A. M. Goodwin, A. Hollenberg, R. Lyons, M. R. MacCharles, P. H. Thorlakson, W. F. Tisdale.

When Capt. Matron Edna Leishman became the bride, March 16th, of Lt.-Col. Robert L. Houston she was given in marriage by her brother, Dr. John Leishman, Regina. The bride is the daughter of the late Dr. and Mrs. A. Leishman, the groom the son of Mr. and Mrs. T. Houston, Arnprior, Ont. Following their wedding trip to Ontario Points, Col. and Mrs. Houston will reside in Winnipeg.

The engagement is announced of Barbara Jean South to Dr. Robert Alexander Polson. The marriage will take place March 31st in St. Andrews River Heights United Church.

To prove that Radiology is not dangerous, a note from Maryland, U.S.A., announcing the arrival in the Walter Reed Army Hospital, of a son, to Mr. and Mrs. Val Patriarche, R.C.A.F. Remember Betty Love, M.D., Radiologist de luxe at the Children's Hospital? O.K. Betty, having traversed all of England, and Eastern Canada is now not only touring the U.S.A. but is the proud mother of four, one female, three male. Congratulations, Betty, and love to Val, from me, not you.

Chairman of the Committee of the Founders of the chair in Icelandic language and literature is Dr. P. H. Thorlakson. Dr. L. A. Sigurdson is a member of the committee.

Welcome to our new arrivals:

Dr. and Mrs. H. Geller, Norwood, are happy to announce the arrival of Sharon Lynne, a sister for Diane Louise, March 6th.

Dr. and Mrs. W. T. Irwin also announce the birth of their second daughter, Irene Louise, Feb. 18th.

Dr. and Mrs. M. R. Hodgson, Steinbach, Man., on March 1, greet Marion Rae.

Dr. and Mrs. John Alcock announce the arrival of a son, March 9th.

Dr. and Mrs. R. M. Ramsay happily announce the arrival of the fourth member of their personal hockey or baseball team. Thomas Patrick, March 1.

Dr. and Mrs. F. W. Hayter are pleased to announce the birth of Brian Richard, March 25.

Dr. and Mrs. Allan McCullough, a son, Christopher Allen George, March 26. What did I say about Radiologists?

Look! Betty Love Patriarche, Dr. Hayter and Al, phooey to the theories!

Dr. and Mrs. Bruce Chown announce the birth of a son, Alexander Gray, March 27.

Dr. and Mrs. F. P. Doyle announce the arrival of Rose Mary, March 22.

Off the groaners list are Ye Editor, Dr. J. C. Hossack, he's still grumbling a bit, and Dr. Jimmie George, but on goes Dr. W. F. Abbott. Welcome back to two and a rapid convalescence to Fred.

For fun—Dr. S. S. Peikoff and family are en tour Sarasota, Miami, Florida, and Cuba. A convention in New Orleans is purely incidental.

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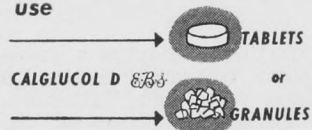
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Department of Health and Public Welfare

Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1950		1949		Total	
	Jan. 28 to Feb. 24, '51	Jan. 1 to Jan. 27, '51	Jan. 29 to Feb. 25, '50	Jan. 1 to Jan. 28, '50	Jan. 1 to Feb. 24, '51	Jan. 1 to Feb. 25, '50
Anterior Poliomyelitis	0	0	2	0	0	2
Chickenpox	145	176	170	172	321	342
Diphtheria	2	1	1	2	3	3
Diarrhoea and Enteritis, under 1 yr.	15	2	15	1	17	16
Diphtheria Carriers	1	0	0	0	1	0
Dysentery—Amoebic	0	0	0	0	0	0
Dysentery—Bacillary	2	1	5	0	3	5
Erysipelas	2	1	6	3	3	9
Encephalitis	0	0	0	0	0	0
Influenza	85	4	7	2	89	9
Measles	522	323	116	147	845	263
Measles—German	13	3	1	0	16	1
Meningococcal Meningitis	3	0	3	2	3	5
Mumps	194	148	49	26	342	75
Ophthalmia Neonatorum	1	0	0	0	1	0
Pneumonia—Lobar	24	17	14	4	41	18
Puerperal Fever	0	0	0	0	0	0
Scarlet Fever	114	60	65	28	174	93
Septic Sore Throat	1	4	4	5	5	9
Smallpox	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0
Trachoma	0	0	0	0	0	0
Tuberculosis	63	29	52	38	92	90
Typhoid Fever	0	0	0	0	0	0
Typhoid Paratyphoid	0	0	0	0	0	0
Typhoid Carriers	0	0	1	0	0	1
Undulant Fever	1	0	0	0	1	0
Whooping Cough	42	23	21	5	65	26
Gonorrhoea	85	114	77	97	199	174
Syphilis	26	12	19	24	38	43

Four-Week Period January 28th to February 24th, 1951

*DEATHS FROM REPORTABLE DISEASES For the Month of February, 1951

DISEASES (White Cases Only)	*779,000 Manitoba	*861,000 Saskatchewan	*3,825,000 Ontario	*2,952,000 Minnesota
Anterior Poliomyelitis	—	—	1	2
Chickenpox	145	147	2648	—
Diarrhoea and Enteritis, under 1 yr.	15	—	—	—
Diphtheria	2	—	2	5
Diphtheria Carriers	1	—	—	—
Dysentery—Amoebic	—	—	—	2
Dysentery—Bacillary	2	—	2	2
Encephalitis Epidemica	—	1	—	—
Erysipelas	2	2	5	—
Influenza	85	1765	1419	5
Jaundice, Infectious	—	1	26	—
Measles	522	112	8117	356
German Measles	13	61	890	—
Meningitis Meningococcal	3	1	5	7
Mumps	194	485	1969	—
Ophthalmia Neonatorum	1	—	—	—
Pneumonia, Lobar	24	—	—	—
Puerperal Fever	—	—	—	—
Scarlet Fever	114	59	208	110
Septic Sore Throat	1	7	7	29
Smallpox	—	—	—	—
Tetanus	—	—	—	—
Trachoma	—	—	—	—
Tuberculosis	63	15	109	107
Tulariaemia	—	—	—	—
Typhoid Fever	—	—	3	—
Typh. Para-Typhoid	—	—	2	—
Typhoid Carrier	—	—	—	—
Undulant Fever	1	—	1	15
Whooping Cough	42	15	332	47
Gonorrhoea	85	—	142	—
Syphilis	26	—	105	—

*Approximate population.

Urban—Cancer, 51; Diarrhoea of newborn, 1; Influenza, 6; Pneumonia Lobar (108, 107, 109), 4; Pneumonia (other forms), 16; Pneumonia of newborn, 1; Syphilis, 1; Tuberculosis, 7; Neoplasms of lymphatic and haematopoietic tissues, 3; Septicaemia and pyaemia, 1; Meningococcal infection, 1; Benign neoplasms, 2. Other deaths under 1 year, 12. Other deaths over 1 year, 181. Stillbirths, 10. Total, 203.

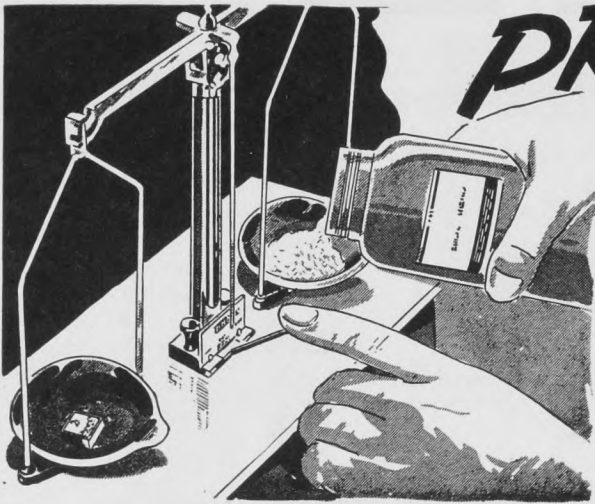
Rural—Cancer, 28; Diarrhoea and Enteritis, 2; Diarrhoea of newborn, 1; Influenza, 4; Pneumonia Lobar (108, 107, 109), 5; Pneumonia (other forms), 12; Pneumonia of newborn, 1; Syphilis, 1; Tuberculosis, 4; Whooping cough, 1; Bacillary dysentery, 2; Septicaemia and pyaemia, 1. Other deaths under 1 year, 18. Other deaths over 1 year, 188. Stillbirths, 10. Total, 216.

Indians—Pneumonia (other forms), 1; Pneumonia of newborn, 1; Tuberculosis, 2; Neoplasms of lymphatic and haematopoietic tissues, 1. Other deaths under 1 year, 4. Other deaths over 1 year, 1. Total, 5.

*As reported to date.

Influenza—Although poorly reported, certainly has been prevalent throughout Manitoba and the whole of Canada. The "A prime" virus has been recovered from cases in various places in Canada and the United States so we are reasonably sure that the same infection is present on this continent which caused the epidemic in Europe. Fortunately the cases are of slight to moderate severity and are not causing deaths in normal healthy persons.

Measles, Mumps and Scarlet Fever are all more prevalent than usual as they are in their epidemic cycles. The Scarlet Fever in most cases is quite mild and rather difficult to diagnose.



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COMING EVENTS

American Goiter Association—1951 Meeting will be held in the Deshler-Wallick Hotel, Columbus, Ohio, May 24th, 25th and 26th. The programme for the three-day meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations.

Canadian Medical Association—Annual Meeting to be held on June 18th to 22nd inclusive, at Montreal, Que.

Manitoba Medical Association—Annual Meeting, Fort Garry Hotel, Winnipeg, Man., October 8th, 9th, 10th and 11th, 1951.

International College of Physical Medicine—The Congress will be held in London, Eng., from the 14th to the 19th of July, 1952. Applications for the Provisional Programme should be addressed to the Honorary Secretary, International Congress of Physical Medicine (1952), 45 Lincoln's Inn Fields, London, W.C. 2, Eng.

Winnipeg Medical Society—Next monthly meeting April 20th at the Medical College.

Anaesthesiology Section—Regular Meetings of the Anaesthesiology Section of the Winnipeg Medical Society are held on the first Tuesday of each month. Visiting Anaesthetists are welcome.



Clinical Luncheons

Time Table for Clinical Luncheons held during the Season in Greater Winnipeg Hospitals. The days in each month on which the luncheons are held are listed herewith. Visiting doctors are welcome.

1st Monday—Deer Lodge Hospital.

1st Thursday—Winnipeg General Hospital.

1st Friday—Children's Hospital.

2nd Tuesday—Municipal Hospital.

2nd Tuesday—Misericordia Hospital.

2nd Thursday—St. Boniface Hospital.

2nd Friday—Victoria Hospital

3rd Tuesday—Grace Hospital.

3rd Thursday—Winnipeg General Hospital.

4th Tuesday—St. Joseph's Hospital.

4th Thursday—St. Boniface Hospital.

Anaesthesiology Section

1st Tuesday—Regular meetings of the Anaesthesiology Section of the Winnipeg Medical Society. Visiting anaesthetists are welcome.

MEDICAL LIBRARY

The University of Manitoba, Faculty of Medicine

Books of Reference Not Loaned

Blakiston's New Gould medical dictionary.

Blakiston, 1949. 1294 p.

The British pharmaceutical codex, 1949.

Pharmaceutical Press, 1949. 1562 p.

Dickinson, R. L. A topographical hand atlas, human sex anatomy. 2nd ed.

Williams, 1949. 145 p.

German-English medical dictionary.

Blakiston, 1949. 241 p.

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Artists, Photographers Invited to 7th Physicians' Art Salon

All Canadian physicians and medical undergraduates with art or photography as a hobby are invited to exhibit some of their work at the 7th annual Physicians Art Salon, to be held in Montreal from June 18th to 22nd, in conjunction with the Canadian Medical Association Convention. All entries in the divisions of fine arts, monochrome photography, and color transparencies will be displayed on the convention floor and judged for awards by a panel of outstanding Canadian artists.

Again sponsored by Frank W. Horner Limited, the salon is expected to attract a large number of enthusiasts in the various media. Organized originally to foster restful pursuits in the profession, the Physicians' Art Salon has aroused widespread interest across the Dominion and has become a form at which artistically gifted physicians can exhibit the produce of their leisure hours before an interested medical audience.

To Enter

Anyone interested in entering work is urged to notify Frank W. Horner Limited, 950 St. Urbain Street, Montreal, who will furnish full details and the necessary entry form. A short note or postcard will do. All expenses, including the transportation of exhibits to and from Montreal, will be borne by Horner.

Deadline

Entry forms must be completed and in the hands of the sponsor before May 30th to ensure proper listing of exhibits in the catalogue. Exhibitors are also asked to ship entries far enough in advance to allow the inevitable delays in express and parcel post. Full shipping instructions appear on the entry form.

Calendar Illustrations

It is reported that Frank W. Horner Limited plans to prepare a 1952 version of the popular Physicians' Art Salon calendar—a plastic bound desk model, distributed gratis to the profession. The calendar reproduces major award winners in full color. Any physician who has not yet obtained a copy of the 1951 Art Salon calendar can do so by requesting one from Frank W. Horner Limited, who still has a limited supply.

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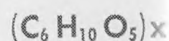
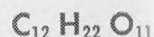
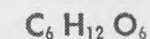
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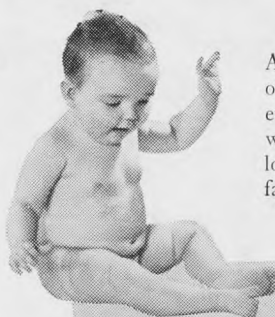


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